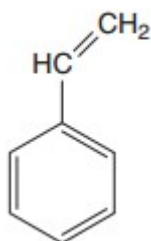


s22

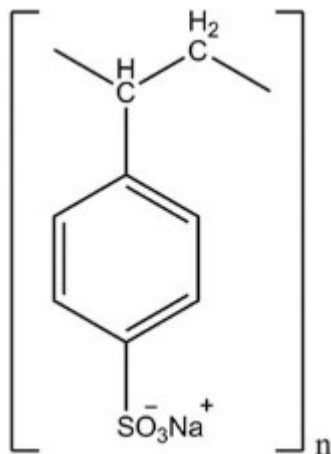
From: s22 on behalf of Toxicology
Sent: Friday, 8 June 2018 12:57 PM
To: s22
Subject: RE: Re: Safety concern re Duromine interaction with PPI's and carcinogenicity CRM:0036627 [DLM=For-Official-Use-Only]

The sender refers to a positive carcinogenicity findings for styrene in mice. Animal and human carcinogenicity data for this compound have been reviewed by the World Health Organization's International Agency for Research on Cancer, and **styrene is classified by the IARC as "probably carcinogenic to humans" (Group 2A).**

This is the chemical structure of styrene:



Amberlite IRP69 is derived from styrene, but is not styrene. **Styrene is not used as an excipient in DUROMINE.** The resin used in DUROMINE is sodium polystyrene sulfonate (a sulfonated copolymer of styrene and divinylbenzene). That is, many units of this structure joined together (*i.e.*, polymerised) in a chain:



While carcinogenicity studies have not been performed with sodium polystyrene sulfonate, the chemical and toxicological properties of this molecule are massively different from styrene. When polymerised, there is no metabolism and no absorption and the molecule is pharmacologically inert (apart from exchange of sodium for other cations). The long history of apparent safe clinical use with regard to tumourigenicity supports there being no cause for concern for carcinogenicity for this compound.

s22
 Principal Toxicologist
 Scientific Evaluation Branch

Phone: s22

Email: s22 [REDACTED]@tga.gov.au

Therapeutic Goods Administration
Department of Health
PO Box 100
Woden ACT 2606
www.tga.gov.au



From: s22 [REDACTED]
Sent: Friday, 8 June 2018 11:00 AM
To: s22 [REDACTED]
Subject: FW: Re: Safety concern re Duromine interaction with PPI's and carcinogenicity CRM:0036627 [DLM=For-Official-Use-Only]

Hi s22 [REDACTED],
As discussed on the phone earlier this week, would you mind having a look to see if you hold any information about the carcinogenicity of Amberlite IRP69 (referred to in the attached email). Do you think there is a basis for the health practitioners concerns regarding cancer risk (see attached emails)
We discussed this issue at the SIU team meeting yesterday.

Kind regards

s22 [REDACTED]

s22 [REDACTED]
Senior Pharmacist
Signal Investigation Unit
Pharmacovigilance and Special Access Branch

Phone: s22 [REDACTED]
Email: s22 [REDACTED]@health.gov.au

Therapeutic Goods Administration
Department of Health
PO Box 100
Woden ACT 2606 Australia
www.tga.gov.au

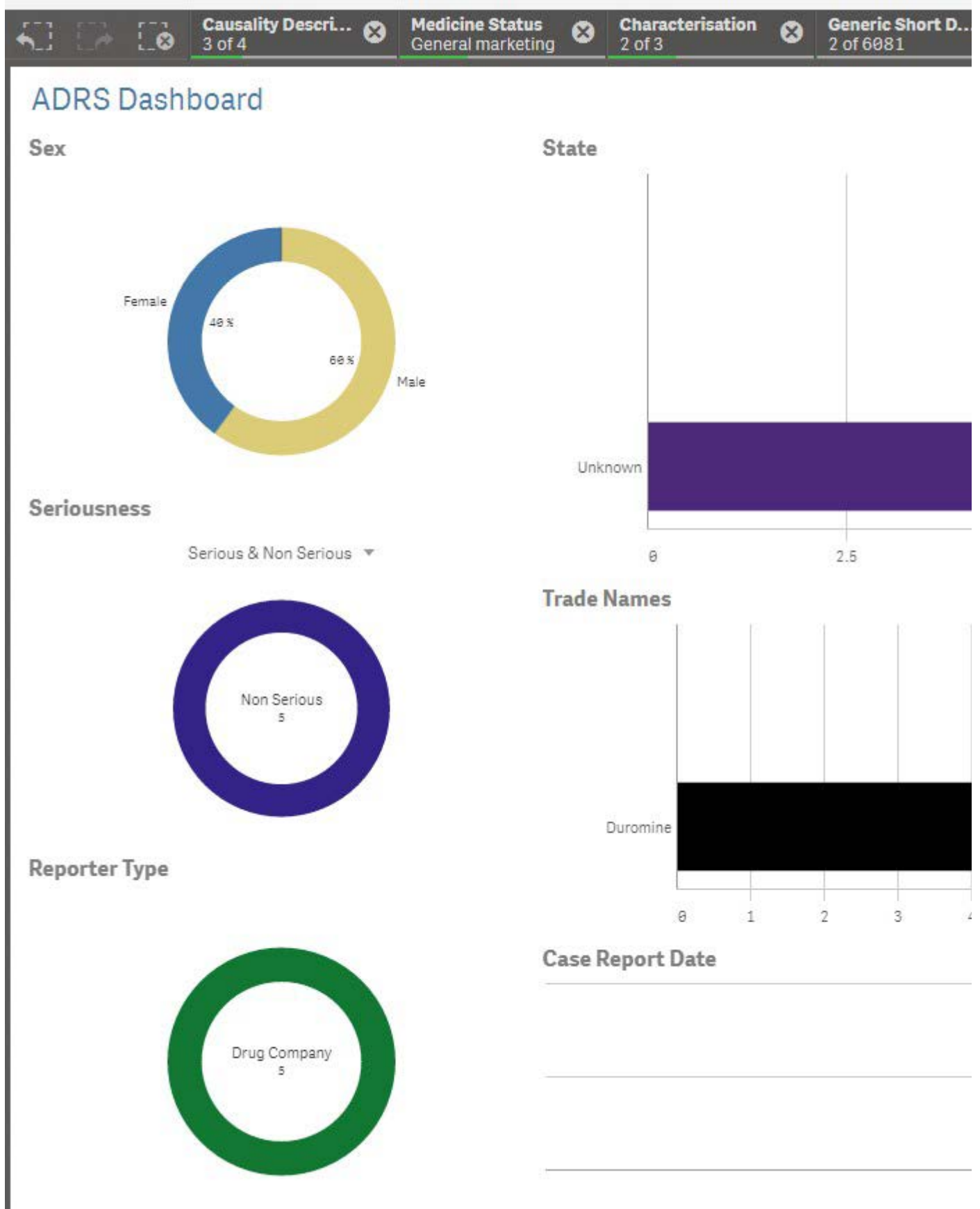
I acknowledge the traditional custodians of the lands and waters where we live and work, and pay my respects to elders past, present and future.

From: s22 [REDACTED] **On Behalf Of** ADR Reports
Sent: Monday, 4 June 2018 3:00 PM
To: s22 [REDACTED]
Subject: FW: Re: Safety concern re Duromine interaction with PPI's CRM:0036627 [SEC=UNCLASSIFIED]

Hi s22 [REDACTED]

I have just attached the 1st two emails the concerned GP sent through.

Looking at Qlik we have 5 cases of drug ineffective dating back 1999 and 2000.



<https://www.fishersci.com/shop/msdsproxy?productName=AC301311000&productDescription=AMBERLITE+IRP69+ION+EXCH+100G&catNo=AC301311000&vendorId=VN00032119&storeId=10652>

Thanks, do you want some help into looking at some stuff?

s2
s22

Medical Officer
Adverse Event and Medicine Defect Section
Pharmacovigilance and Special Access Branch
Email: s22@tga.gov.au

Therapeutic Goods Administration
Department of Health
PO Box 100
Woden ACT 2606 Australia
www.tga.gov.au

From: TGA Info
Sent: Friday, 1 June 2018 3:36 PM
To: ADR Reports
Subject: FW: Re: Safety concern re Duromine interaction with PPI's [SEC=No Protective Marking]
[SEC=UNCLASSIFIED] CRM:0036627

Good afternoon

Please find attached an email from s22 -
email: s22@outlook.com - for your follow up and response. If your area is not the
appropriate area to respond to this email please let us know.

If you are responding directly to an external enquiry, you are responsible for ensuring that the [TGA customer service standards](#) are met.

Please ensure that any internal correspondence is deleted prior to sending the response.

If your area does not have access to a generic email address, the RAS can send approved responses
on your behalf from info@tga.gov.au, provided there is sufficient time for the service standards to be
met.

Kind regards

Regulatory Assistance Section
[Regulatory Services and Improvement Branch](#)

Phone: 1800 020 653 **Fax:** 02 6203 1605
Email: info@tga.gov.au

Therapeutic Goods Administration
Department of Health
PO Box 100
Woden ACT 2606 Australia
www.tga.gov.au

*This response is general information given to you without prejudice; it is not binding on the TGA and
you should get your own independent legal advice to ensure that all of the legislative requirements are
met.*

----- Original Message -----

From: s22@outlook.com;

Received: 29/05/2018 1:55 PM

To: TGA Info (null);

Subject: Re: Safety concern re Duromine interaction with PPI's [SEC=No Protective Marking]

Please replace my earlier email with the corrected copy appended below. I have deleted information which may not be correct (based on a misreading of a search result, copied below).



Corrected copy:

From: s22

Sent: Tuesday, 29 May 2018 10:14 AM

To: info@tga.gov.au

Subject: Safety concern re Duromine interaction with PPI's

Dear Sir,

Duromine capsules (including Metermine) contain beads bound to phentermine base. The rate of drug elution from the beads depends on the concentration of ions in the gut. PPI's such as omeprazole and esomeprazole can cause achlorhydria with less ions in the stomach which could reduce phentermine release from the beads. This has never been studied but seems possible.

It is noted that the relevant patient population (obese people) are likely to suffer from reflux hence are likely to be taking a PPI.

This could become a serious issue if a generic of Duromine is ever approved which is not similarly affected by PPI's, since the products won't be bioequivalent and blood levels could fluctuate significantly if a patient taking a PPI switches from one phentermine product to another.

It is noted that Duromine has never been formally evaluated by the TGA since it was launched about 60 years ago. Perhaps it's time for this old drug to be evaluated.

I believe iNova should be asked to comment on the bioavailability and safety of Duromine when taken with a PPI and the PI should be updated to publicise the interaction if confirmed.

Regards,

s22



Australian Government
Department of Health
Therapeutic Goods Administration

The Managing Director
AstraZeneca Pty Ltd
Alma Road
North Ryde NSW 2113
Australia

TRIM ref: R15/162033

Attention: Regulator Affairs Manager (LOSEC/Omeprazole magnesium)

Dear Sir/Madam

RE: LOSEC (Omeprazole sodium ARTG 63414, 63416, 63418) – request to update the Australian Product Information (PI) following a (FDA) drug safety update

The Signal Investigation (Medicines) Unit (SIU) of the Therapeutic Goods Administration (TGA) Post-market Surveillance Branch (PMSB) has received notification from the US Food and Drug Administration (FDA) of an update to the Product Label for Omeprazole sodium.

The changes to the Product Label are summarised below.

Warnings and precautions

Acute interstitial nephritis has been observed in patients taking proton pump inhibitors (PPIs) including omeprazole. Acute interstitial nephritis may occur at any point during PPI therapy and is generally attributed to an idiopathic hypersensitivity reaction. Discontinue omeprazole if acute interstitial nephritis develops.

Daily treatment with any acid-suppressing medications over a long period of time (e.g. longer than three years) may lead to malabsorption of cyanocobalamin (vitamin B-12) caused by hypo- or achlorhydria.

Interactions with other medicines

Co-administration of omeprazole in healthy subjects and in transplant patients receiving mycophenolate mofetil has been reported to reduce the exposure to the active metabolite, mycophenolic acid. This is possibly due to a decrease in mycophenolate mofetil solubility at an increased gastric pH. The clinical relevance of reduced mycophenolic acid exposure on organ rejection has not been established in transplant patients receiving omeprazole and mycophenolate mofetil. Use omeprazole with caution in transplant patients receiving mycophenolate mofetil.

Following an evaluation of the US Product Label update by the TGA, an update to the Australian PI is requested. It is requested that you update the Precautions and Drug Interactions section of the Losec® PI in line with the changes to the US Product Label.

The requested changes may be made as a safety-related request (SRR) under the provisions of Section 9D(2) of the Therapeutic Goods Act 1989. This should be done as soon as possible and no later than one month from the date of this letter. To facilitate processing, please include a copy of this letter with the notification.

Please advise me by email, with a copy to the Signal Investigation Coordinator at si.coordinator@tga.gov.au, when you have submitted your SRR and include a copy of the proposed PI.

Thank you for your attention to this matter.

Yours sincerely,

s22

Departmental Officer

Signal Investigation (Medicines) Unit

Post-market Surveillance Branch

Therapeutic Goods Administration (TGA) Australia

Friday 27th February 2015



Australian Government
Department of Health
Therapeutic Goods Administration

The Managing Director
AstraZeneca Pty Ltd
5 Alma Road
North Ryde NSW
Australia

TRIM ref: R15/290511

Attention: Regulator Affairs Manager (LOSEC/Omeprazole)

Dear Sir/Madam

RE: LOSEC (Omeprazole sodium ARTG 63414, 63416, 63418) – follow up for request to update the Australian Product Information (PI)

The Signal Investigation (Medicines) Unit (SIU) of the Therapeutic Goods Administration (TGA) Post-market Surveillance Branch (PMSB) wrote to you on 27th February 2015, alerting you of updates to the US Food and Drug Administration (FDA) Product Label for omeprazole.

Please provide a written (email preferred) response to this letter, indicating whether the safety related request (SRR) has been submitted to the TGA as requested, with a proposed PI and a submission number. If this has not yet been completed, please submit an SRR under the provisions of Section 9D(2) of the Therapeutic Goods Act 1989 within 2 weeks of the date of this letter.

If you have any questions regarding this request, please contact me on (02) s22 or s22 @tga.gov.au

I have attached a copy of the original letter for your reference

Yours sincerely,

s22

Pharmacist
Signal Investigation (Medicines) Unit
Post-market Surveillance Branch
Therapeutic Goods Administration (TGA) Australia

Monday 20th April 2015

From: [REDACTED]
To: [REDACTED] <[REDACTED]@health.gov.au>
Cc: [REDACTED]
Subject: FW: TRIM: RE: SAP Proton Pump Inhibitors and Tubulointerstitial Nephritis and Renal Failure [SEC=OFFICIAL]
Date: Thursday, 8 August 2024 12:26:00 PM
Attachments: image002.png
image003.png

Dear RORMS

An assessment of the safety issue "PPIs and Tubulointerstitial Nephritis and Renal Failure" (2015/008656) has been completed and a PI update for rabeprazole is recommended. Please see below for more details, and let me know if any further information is required.

Many thanks,

[REDACTED]

From: [REDACTED] <[REDACTED]@health.gov.au>
Sent: Wednesday, August 7, 2024 7:14 AM
To: [REDACTED] <[REDACTED]@Health.gov.au>
Subject: TRIM: RE: SAP Proton Pump Inhibitors and Tubulointerstitial Nephritis and Renal Failure [SEC=OFFICIAL]

[REDACTED], Thank you for this SAP. I agree with your recommendation.

Kind Regards

[REDACTED]

Medical Officer- Medicines Surveillance and Signal Investigation Section

Medicines Regulation Division | Therapeutic Goods Administration
Pharmacovigilance Branch
Australian Government Department of Health and Aged Care
Email: [REDACTED] <[REDACTED]@health.gov.au>
Location: Level 11, 11 Waymouth Street
MDP:117, GPO Box 9848, Adelaide SA 5001, Australia

The Department of Health and Aged Care acknowledges First Nations peoples as the Traditional Owners of Country throughout Australia, and their continuing connection to land, sea and community. We pay our respects to them and their cultures, and to all Elders both past and present.

From: [REDACTED] <[REDACTED]@Health.gov.au>
Sent: Tuesday, August 6, 2024 11:51 AM
To: [REDACTED] <[REDACTED]@health.gov.au>
Subject: SAP Proton Pump Inhibitors and Tubulointerstitial Nephritis and Renal Failure [SEC=OFFICIAL]

Hi [REDACTED],

Here is another SAP I would appreciate your input on, thank you!

Safety Issue	Omeprazole and rabeprazole, tubulointerstitial nephritis and renal failure
Signal Source	On 12 May 2024, Medis Pharma notified TGA of PRAC PSUR Assessment reports published by EMA <ul style="list-style-type: none">in December 2022, regarding omeprazole and renal impairment (D24-1872627),in August 2022 for rabeprazole and renal impairment (D24-1835020). CMDh endorsed amendments to the EMA SmPC sections 4.4 and 4.8 (see below for more details) for both of these products.
Current Information	<ul style="list-style-type: none">Aus PI<p>Omeprazole (last revised 13 November 2023, D24-3303807): Section 4.4 Special Warnings and Precautions for Use<ul style="list-style-type: none">Acute interstitial nephritis has been observed in patients taking proton pump inhibitors (PPIs) including omeprazole.Acute interstitial nephritis may occur at any point during PPI therapy and is generally attributed to idiopathic hypersensitivity reaction.Discontinue omeprazole if acute interstitial nephritis develops.Section 4.8 Adverse Effects-->Renal and urinary disorders<ul style="list-style-type: none">Rare: tubulointerstitial nephritis (with possible progression to renal failure)</p><p>Rabeprazole (last revised 5 May 2023, D24-3303860)<ul style="list-style-type: none">Section 4.4 wording similar to that for omeprazoleSection 4.8 Post-Marketing Experience: interstitial nephritis listedNote there is no warning on progression to renal failure</p><p>*While pantoprazole and lansoprazole were not included in these notifications, review of the PIs showed that tubulointerstitial nephritis and risk of renal failure are listed.</p>Relevant COR documents<p>Health Canada Health Product InfoWatch May 2024 (D24-3180301)<ul style="list-style-type: none">'Warnings and Precautions,' 'Adverse Reactions (Post-Market)' and 'Patient Information' sections of Product Monograph for omeprazole updated with risk of acute tubulointerstitial nephritis, noting that it may occur at any point during therapy, can progress to renal failure, and should be discontinued if TIN suspected.</p><p>CMDh recommendations for EMA SmPC Omeprazole and Rabeprazole (attachments in notifications) Section 4.4<ul style="list-style-type: none">"Acute tubulointerstitial nephritis (TIN) has been observed in patients taking [name of PPI] and may occur at any point during...therapy.""[TIN] can progress to renal failure.""[Name of PPI] should be discontinued in case of suspected TIN".Section 4.8<ul style="list-style-type: none">Specify tubulointerstitial nephritis and possible progression to renal failure<p>Rabeprazole SmPC (available via Ireland's Health Products Regulatory Authority, last revised December 2022, D24-3304195) lists risk of acute tubulointerstitial nephritis with possible progression to renal failure, frequency rare.</p></p>AEMS<p>Case reports Search of AEMS under default bookmark, generic name 'rabeprazole sodium' and reaction term 'tubulointerstitial nephritis' yielded 35 reports.<ul style="list-style-type: none">'Renal failure' was also coded for 5 of these cases (Case IDs 272625, 214371, 236376, 236389 and 272625), although concomitant medications were taken in these cases.2 reports (Case IDs 192348, 209412) included 'renal failure' as past medical history.Addition of reaction term 'renal failure' yielded 9 more cases (where tubulointerstitial nephritis was NOT co-reported)</p><p>DPAR<ul style="list-style-type: none">Renal failure PRR 14.0Tubulointerstitial nephritis PRR 53.2</p>Vigilyze<p>Search under global view, active ingredient 'rabeprazole' and PTs 'renal failure,' 'tubulointerstitial nephritis'<ul style="list-style-type: none">3971 cases totalTubulointerstitial nephritis: 1153 cases, IC025 6.7Renal failure: 3084 cases, IC025 5.6</p>Recommendation<p>REFERRAL TO REGULATORY OUTCOMES AND RISK MANAGEMENT SECTION (RORMS) is recommended at this time, to update the rabeprazole PI in alignment with that of other proton pump inhibitors, listing risk of tubulointerstitial nephritis and risk of progression to renal failure.<ul style="list-style-type: none">There are cases of rabeprazole associated with tubulointerstitial nephritis and renal failure in Australia, and disproportionality flags for both PTs on AEMS and Vigilyze.Including warning on progression to renal failure in rabeprazole PI characterises the potential severity of TIN.</p>

Warm regards,

[REDACTED]

[REDACTED]
[REDACTED]
Medical Officer – Medicines Surveillance and Signal Investigation Section
Pharmacovigilance Branch

Medicines Regulation Division | Therapeutic Goods Administration
Australian Government Department of Health and Aged Care
Email: [REDACTED] <[REDACTED]@health.gov.au>
[REDACTED]

The Department of Health and Aged Care acknowledges First Nations peoples as the Traditional Owners of Country throughout Australia, and their continuing connection to land, sea and community. We pay our respects to them and their cultures, and to all Elders both past and present.

From: s22
To: [Signal Investigation Coordinator](#); [Streamlined Submission](#)
Cc: s22
Subject: RE: Rabeprazole - Letter to TGA - Update [SEC=No Protective Marking]
Date: Thursday, 24 May 2018 4:06:14 PM
Attachments: [image001.png](#)

Dear All

A further update has been received from our Head Office on this issue as follows.

In follow up to its 24 January 2018 Safety Labelling Change Notification (SLCN) to sponsors of Proton Pump Inhibitors (PPIs) in the US regarding increased risk of fundic gland polyps, the US FDA issued a letter to Eisai, Inc (dated 16 May 2018) containing revisions to its 24 January request.

FDA considered responses from all PPI sponsors and revised its wording for required class labelling in Section 5, Warnings & Precautions and its recommended wording in the Highlights section and the Medication Guide, and has withdrawn its recommendation to include new language pertaining to fundic gland polyps in Section 17, Patient Counselling Information. However, the language to be added to sections 6 Adverse Reactions and 6.2 Postmarketing Experience remains the same as stated in FDA's 24 January 2018 SLCN letter.

Eisai is required to submit an amendment to its labelling supplement on this topic to FDA by 24 May 2018. Therefore, the class labelling for PPIs, including AcipHex, on the topic of fundic gland polyps will remain under review with FDA beyond 24 May 2018. A specific end date for this review has not been identified by the FDA at this time.

We will continue to keep the TGA updated.

Regards

s22

From: s22
Sent: Friday, 20 April 2018 10:53 AM
To: s22 [@health.gov.au](mailto:s22@health.gov.au); Streamlined Submission
 <s22 [@health.gov.au](mailto:s22@health.gov.au)>
Cc: s22 [@its.jnj.com](mailto:s22@its.jnj.com); s22
 s22 [@its.jnj.com](mailto:s22@its.jnj.com)>
Subject: RE: Rabeprazole - Letter to TGA - Update

Dear All,

A further update has been received from our Head Office on this issue as follows.

Eisai have advised that an updated, in-use version of the AcipHex (rabeprazole) USPI (dated March 2018) has been posted to the DailyMed website (link below, US PI attached for reference).

<https://dailymed.nlm.nih.gov/dailymed/>

Due to the type of submission to the FDA, i.e., Supplement - Changes Being Effected, the updated USPI can be implemented as submitted, however there is an FDA review period that concludes 24 May 2018, and it is still possible that changes could be requested by the FDA. We will continue to keep the TGA updated.

I will be out of the office after today until Monday 23 April, so please include my colleagues, s22 and s22, copied above, on any e-mails regarding this issue.

Kind regards,

s22

s22

Senior Manager, Regulatory Affairs



Janssen Australia and New Zealand (Janssen-Cilag Pty Ltd)

66 Waterloo Road

Macquarie Park, NSW, 2113

Australia

Tel: s22 Mobile: s22

Fax: s22

s22 @its.jnj.com

www.janssen.com/australia

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If your message relates to the reporting of an adverse drug experience or other drug safety issues, please forward your email to the dedicated Janssen Drug Safety inbox:

LSO_AUST@its.jnj.com

From: s22 [JACAU]

Sent: Friday, 13 April 2018 1:35 PM

To: s22 @health.gov.au; Streamlined Submission

<s22 @health.gov.au>

Cc: s22 [MEDAU] s22 @its.jnj.com> s22

s22 @its.jnj.com>

Subject: RE: Rabeprazole - Letter to TGA - Update

Dear All,

Further to my e-mail below I have received a further update from our Head Office colleagues overnight as follows:

Eisai, Inc submitted a Changes Being Effected labeling supplement to address US FDA's request to update the AcipHex (rabeprazole) USPI with regard to fundic gland polyps on 16 March 2018, for which FDA has a review period that ends on 24 May 2018. Therefore, the US labeling update remains under review with FDA.

We will keep the TGA updated and will provide a copy of the approved, updated US PI once available.

I will be out of the office after today so please include my colleagues, s22 and s22, copied above, on any correspondence.

Kind regards,

s22

s22

Senior Manager, Regulatory Affairs



Janssen Australia and New Zealand (Janssen-Cilag Pty Ltd)
66 Waterloo Road
Macquarie Park, NSW, 2113
Australia

Tel: s22 Mobile: s22

Fax: s22
s22@its.jnj.com

www.janssen.com/australia

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If your message relates to the reporting of an adverse drug experience or other drug safety issues, please forward your email to the dedicated Janssen Drug Safety inbox:
LSO_AUST@its.jnj.com

From: s22

Sent: Thursday, 12 April 2018 12:21 PM

To: s22@health.gov.au; s22@health.gov.au; 'Streamlined Submission'

s22 [REDACTED]@health.gov.au>

Cc: s22 [REDACTED] [MEDAU] s22 [REDACTED]@its.jnj.com>; s22 [REDACTED]

s22 [REDACTED]@its.jnj.com>

Subject: Rabeprazole - Letter to TGA

Dear All,

Please find attached a letter to the TGA regarding rabeprazole.

As described in the letter, there are applications in progress and hence I am also including Streamlined Submission on this e-mail.

Please do not hesitate to contact me if you require any further information.

Kind regards,

s22 [REDACTED]

s22 [REDACTED]

Senior Manager, Regulatory Affairs



Janssen Australia and New Zealand (Janssen-Cilag Pty Ltd)
66 Waterloo Road
Macquarie Park, NSW, 2113
Australia

Tel: s22 [REDACTED] Mobile: s22 [REDACTED]

Fax: s22 [REDACTED]
s22 [REDACTED]@its.jnj.com

www.janssen.com/australia

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If your message relates to the reporting of an adverse drug experience or other drug safety issues, please forward your email to the dedicated Janssen Drug Safety inbox:
LSO_AUST@its.jnj.com

s22

From: s22 [JACAU] s22@ITS.JNJ.com>
Sent: Monday, 20 June 2022 3:21 PM
To: Signal Investigation Coordinator
Cc: s22 [JACAU]
Subject: Update to SSI for PARIET (rabeprazole)

REMINDER: Think before you click! This email originated from outside our organisation. Only click links or open attachments if you recognise the sender and know the content is safe.

Dear Sir or Madam

We refer to the SSI for PARIET (rabeprazole) notified to TGA in June 2020.

The SSI, tubulointerstitial nephritis, was first notified on 22 June 2020 and since then a number of updates have been submitted to TGA.

Today, we have received another update from Janssen head office and it is related to a PRAC recommendation following the assessment of PBRER covering the period of 14 Oct 2016 to 13 Oct 2021.

EU PBRER - PRAC recommendation

Janssen head office received the PRAC recommendation from the partner company, Eisai, on 16 Jun 2022, which was forwarded to the Sponsor today.

The PRAC recommendation is to add a warning related to acute tubulointerstitial nephritis (TIN) in section 4.4 of the SmPC as detailed below.

Amendments to be included in the relevant sections of the Product Information (new text underlined and in bold, deleted text ~~strike-through~~)

Summary of Product Characteristics

- Section 4.4

A warning should be added as follows:

Exact wording of final warning:

Renal impairment

Acute tubulointerstitial nephritis (TIN) has been observed in patients taking rabeprazole and may occur at any point during rabeprazole therapy (see section 4.8). Acute tubulointerstitial nephritis can progress to renal failure. Rabeprazole should be discontinued in case of suspected TIN, and appropriate treatment should be promptly initiated.

- Section 4.8

The following adverse reaction should be amended under the SOC Renal and urinary disorders with a frequency rare:

Tubulointerstitial nephritis (with possible progression to renal failure)

Package Leaflet

Under section "Warnings and precautions" the following should be added:

When taking rabeprazole, inflammation in your kidney may occur. Signs and symptoms may include decreased volume of urine or blood in your urine and/or hypersensitivity reactions such as fever, rash, and joint stiffness. You should report such signs to the treating physician.

The PRAC recommendation has been forwarded to the CMDh (Co-ordination Group for Mutual Recognition and Decentralised Procedures for human use), for adoption. The CMDh position is expected within the next week or so. A variation to update the EU SmPC will be submitted in EU by 06 Oct 2022.

It should be noted that the PI for PARIET already includes the acute interstitial nephritis as a warning and as a post-marketing adverse event.

Please do not hesitate to contact me should you require anything further.

Thanks for your help

s22

Senior Manager, Regulatory Affairs
Regulatory Affairs



Janssen Australia and New Zealand (Janssen-Cilag Pty Ltd)

66 Waterloo Road

Macquarie Park, NSW, 2113

Mobile: s22

s22@its.inj.com

www.janssen.com

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From: s22
To: [Signal Investigation Coordinator](#)
Cc: s22; s22
Subject: RE: NEXIUM - Action Notification - Acute Tubulointerstitial Nephritis
Date: Friday, 8 December 2023 3:53:08 PM
Attachments: [action-notification-esomeprazole-tin-sahpra.pdf](#)

Dear Signal Investigation Coordinator,

Please find attached the action notification document which provides further details in relation to the actions taken by SAHPRA, along with AstraZeneca's position on these actions.

Regards,

s22

From: s22
Sent: Friday, 8 December 2023 3:32 PM
To: 'Signal Investigation Coordinator' s22@health.gov.au>
Cc: s22@astrazeneca.com>; s22@astrazeneca.com>
Subject: NEXIUM - Action Notification - Acute Tubulointerstitial Nephritis

Dear Signal Investigation Coordinator,

AstraZeneca hereby notifies the TGA of actions taken by the South African Health Products Regulatory Authority (SAHPRA) for NEXIUM that have resulted in a label imposition regarding acute tubulointerstitial nephritis with proton pump inhibitor (PPI) use.

This action notification is associated with the following esomeprazole products:

Product	AUST R
NEXIUM esomeprazole 20 mg (as magnesium trihydrate) tablet blister pack	74133
NEXIUM esomeprazole 40 mg (as magnesium trihydrate) tablet blister pack	74134
NEXIUM IV esomeprazole 40 mg (as sodium) powder for injection vial	96678
NEXIUM esomeprazole 10 mg (as magnesium trihydrate) enteric coated granules for oral suspension sachet	135726
AXAGON esomeprazole 20 mg (as magnesium trihydrate) tablet blister pack	202457
AXAGON esomeprazole 40 mg (as magnesium trihydrate) tablet blister pack	202458
REFEXXIN esomeprazole 40 mg (as magnesium trihydrate) tablet blister pack	202463
REFEXXIN esomeprazole 20 mg (as magnesium trihydrate) tablet blister pack	202464
NEXIUM Hp7 esomeprazole tablet, amoxicillin capsule, clarithromycin tablet composite pack	281690
ESOPREZE esomeprazole 20 mg (as magnesium trihydrate) tablet blister pack	349670
ESOPREZE esomeprazole 40 mg (as magnesium trihydrate) tablet blister pack	349671

On 16 January 2023, AstraZeneca received a letter from SAHPRA with recommendations to update the South Africa Professional Information/Patient Information Leaflet and issue a Dear Healthcare Professional Letter with wording in line with the United States FDA recommendations, pertaining to the topic of acute tubulointerstitial nephritis with PPI use.

On 23 January 2023, AstraZeneca accepted the SAHPRA recommendations as a regulatory imposition. There is no change to the company position in relation to this topic.

Please note that AXAGON (AUST R 202457, 202458) and REFEXXIN (AUST R 202463, 202464) are not currently marketed in Australia.

Should you require any further information, please do not hesitate to me.

Regards,

s22

Regulatory Affairs Manager

AstraZeneca

66 Talavera Road, Macquarie Park, NSW 2113, Australia


T: s22

F: s22

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s22

@astrazeneca.com

 Please consider the environment before printing this e-mail

Action Notification

Drug Substance Esomeprazole

Date 07 December 2023

**Action Notification for NEXIUM® (esomeprazole) and Dear
Health Care Professional Letter (DHCPL) & Professional
Information (PI)/Patient Information Leaflet (PIL) update
imposition regarding tubulointerstitial nephritis (TIN) by South
African Health Products Regulatory Authority (SAHPRA)**

TITLE PAGE.....	1
TABLE OF CONTENTS	2
1 PRODUCT OVERVIEW.....	3
2 ACTION DESCRIPTION.....	3
2.1 ACTION OVERVIEW	3
2.2 COMPANY POSITION	4
3 COMPANY ACTION	4

1 PRODUCT OVERVIEW

Date of this notification	07 December 2023
Active substance(s) (invented name(s))	Esomeprazole
Pharmaceutical form(s)/Route(s) of administration / Strength(s)	NEXIUM®: capsules/ tablets 20 mg and 40 mg; granules for oral suspension 2.5 mg, 5 mg, 10 mg, 20 mg and 40 mg; infusion/injection 40 mg Route of administration – Oral; Intravenous
International Birth Date	10 March 2000
Health Authority Requesting the Action	South African Health Products Regulatory Authority (SAHPRA)
Action Taken by Health Authority	1. Local Label Imposition: Request for addition to local label not reflected in CDS (additions to ‘Side effect, ‘Post-marketing exposure and ‘Warnings and Precautions’ sections of the PI/PIL). 2. Safety Communication: DHCP communication required regarding the risk of acute TIN associated with PPIs.

2 ACTION DESCRIPTION

2.1 ACTION OVERVIEW

AstraZeneca received a letter dated 15 December 2020 from South African Health Products Regulatory Authority (SAHPRA) with recommendations to update South Africa Professional Information (PI)/Patient Information Leaflet (PIL) and issue a Dear Health Care Professional Letter (DHCPL), pertaining to the topic of acute Tubulointerstitial nephritis (TIN) with proton pump inhibitor (PPI) use.

Based on the comprehensive medical & scientific review of the topic of TIN associated with the PPI use, AstraZeneca had responded that it is AstraZeneca’s view that a label change was not warranted and, consequently, a DHCPL was not required.

On 16 January 2023, AstraZeneca received a letter from SAHPRA with recommendations to update South Africa PI/PIL and issue a DHCPL with wording in line with the United States Food and Drug Administration (US FDA) recommendations, pertaining to the topic of acute TIN with PPI use. SAHPRA recommended as below:

- *“Applicants of PPI containing medicines update PI/PIL of their products in line with the US FDA recommendations. Applicants should consider the following:*

- *Treatment with PPIs must be stopped when interstitial nephritis is suspected,*
- *Contraindication of PPI use in patients who previously experienced interstitial nephritis while on treatment with PPI.*
- *Use of the term acute tubulointerstitial nephritis in keeping with the current terminology by MedDRA.*
- *Applicants distribute a DHCPL to alert healthcare professionals of the risk of tubulointerstitial nephritis associated with PPIs.”*

The DHCPL was to update on the safety information regarding acute TIN that has been observed with the use of PPIs.

On 23 January 2023, AstraZeneca submitted the DHCPL for NEXIUM/AXIAGO (esomeprazole) for SAHPRA’s approval. On 15 February 2023, SAHPRA requested for a joint DHCPL in collaboration with two other innovator companies (s47G(1)(a)), with s47G(1)(a). On 23 February 2023, AstraZeneca sent the reviewed joint DHCPL for NEXIUM/AXIAGO to s47G(1)(a) for SAHPRA's submission. The joint DHCPL was submitted by s47G(1)(a) to SAHPRA on 25 April 2023. Between 25 April 2023 and 01 November 2023, there were multiple communications between the three innovator companies and SAHPRA on the text to be included in the DHCPL.

On 10 November 2023, SAHPRA approved the joint DHCPL.

2.2 COMPANY POSITION

In response to this specified action, AstraZeneca’s position was that there is insufficient evidence and that a label change was not warranted and, consequently, a DHCPL was not required. However, AstraZeneca acknowledge the SAHPRA’s position and accepted the SAHPRA recommendations as a regulatory imposition and will implement the action as requested.

3 COMPANY ACTION

Following discussions with the requesting Health Authority,

1. AstraZeneca has taken the following action: The joint DHCPL, titled “The risk of acute tubulointerstitial nephritis (TIN) associated with proton pump inhibitors (PPIs)” was disseminated in South Africa by our partner on 24 November 2023.

The following text was included as Advice to healthcare professionals:

- Treatment with Nexium[®]/Axiago[®] must be stopped when TIN is suspected.

- Nexium[®] / Axiago[®] are contraindicated in patients who previously experienced TIN while on treatment with PPIs.
- Patients should be asked to report any decrease in urine volumes or if they suspect that there is blood in their urine while on PPIs.

2. AstraZeneca will take the following action: The South Africa PI and PIL will be updated by including the SAHPRA recommended text in 'Side effect, 'Post-marketing exposure and 'Warnings and Precautions' sections of the PI/PIL.

From: s22
To: s22@its.jnj.com; s22@its.jnj.com; s22@its.jnj.com
Cc: s22 Regulatory Outcomes Stream
Subject: Product Information Update Notification: rabeprazole and tubulointerstitial nephritis (with possible progression to renal failure) [SEC=OFFICIAL]
Date: Thursday, 26 September 2024 12:40:17 PM
Attachments: image001.png
image002.png
image004.png

Dear s22 and s22

The TGA has been notified of an international regulatory action amending the product safety information for rabeprazole to include the risk of tubulointerstitial nephritis (TIN) (with possible progression to renal failure). The TGA expects Janssen-Cilag to update the Australian Product Information (PI) and Consumer Medicine Information (CMI) in line with the international update for the following products:

ARTG No	Product
170438	PARIET 10 rabeprazole sodium 10 mg enteric-coated tablet blister pack
76185	PARIET rabeprazole sodium 10mg tablet blister pack
76186	PARIET rabeprazole sodium 20mg tablet blister pack

The TGA’s conclusion to update the Australian PI is based on the following evidence:

Evidence	Summary
TGA Adverse Events Management System (AEMS)	• A search of the AEMS database on 16 September 2024 using search terms ‘rabeprazole’ and PT ‘tubulointerstitial nephritis’ found 35 local cases. PT renal failure was co-reported in 3 cases and PT acute kidney injury was co-reported in 6 cases. The presence of Australian cases indicates there is a local signal for rabeprazole and TIN with possible progression to renal failure.
WHO adverse events database (Vigilyze)	• A positive IC ₀₂₅ value of 6.8 for ‘rabeprazole’ and PT ‘tubulointerstitial nephritis’ was obtained from Vigilyze on 16 September 2024. Of the 1153 cases reported, 1104 were reported as serious including 319 cases with a fatal outcome, 42 cases of a positive dechallenge, 1 case of a positive rechallenge and 71 cases where rabeprazole was the sole suspected drug. Notably, PT renal failure was co-reported in 266 cases (23.1% of total cases) and PT acute kidney injury was co-reported in 907 cases (78.7% of total cases).
Overseas product information and/or regulatory action	• Tubulointerstitial nephritis (with possible progression to renal failure) is included in the EU SmPC for rabeprazole in Section 4.4 and 4.8. The Australian population is not dissimilar to that of Europe and inclusion of this risk in the Australian PI will align with this international labelling.
Additional information	• The Australian PI for other proton pump inhibitors (PPIs), including LOSEC (omeprazole), SOMAC (pantoprazole) and ZOTON (lansoprazole), already contain the risk of tubulointerstitial nephritis (with possible progression to renal failure) in Section 4.8. The additional warning of possible progression to renal failure appropriately characterises the potential severity of TIN to healthcare professionals and ensures consistency across Australian PIs for PPIs. • A literature search using PubMed on 23 September 2024 retrieved 6 articles in support of this signal. ^{1,2,3,4,5,6} Articles highlighted the importance of timely diagnosis and prompt withdrawal of the offending agent to prevent potentially life-threatening renal failure.

Required action:

Identified safety issues require prompt risk mitigation to ensure ongoing public safety. I therefore request that you submit a Safety-Related Request (SRR) application to the Prescription Medicines Authorisation Branch (PMAB) under the provisions of section 9D(2) of the *Therapeutic Goods Act 1989* to effect the necessary changes outlined below, **no later than 24 October 2024**. (Wording to be added is blue and underlined, wording to be removed is in red strikethrough font.)

4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE:

Acute Tubulointerstitial ~~Interstitial~~ Nephritis

Acute tubulointerstitial nephritis (TIN) has been observed in patients taking proton-pump inhibitors (PPIs) including rabeprazole sodium. Acute tubulointerstitial nephritis may occur at any point during PPI therapy and is generally attributed to an idiopathic hypersensitivity reaction. Acute tubulointerstitial nephritis can progress to renal failure. Discontinue rabeprazole sodium if acute tubulointerstitial nephritis develops.

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS):

Post-marketing data

In addition to the adverse reactions reported during clinical studies and listed above, the following adverse reactions have been reported during post-marketing experience.

Erythema and rarely bullous reactions, urticarial skin eruptions and acute systemic allergic reactions, for example facial swelling, hypotension and dyspnoea have been reported in patients treated with PARIET. These usually resolved after discontinuation of therapy. Erythema multiforme, tubulointerstitial nephritis (with possible progression to renal failure), gynaecomastia, myalgia and potential allergic reactions including anaphylactic reactions have been reported rarely. Blood dyscrasia including thrombocytopenia, neutropenia, leukopenia, pancytopenia, agranulocytosis and bicytopenia have been reported rarely. Hypomagnesaemia has also been reported rarely. Hypocalcaemia and/or hypokalaemia have been reported, which may be related to the occurrence of hypomagnesaemia (see 4.4 SPECIAL WARNINGS PRECAUTIONS FOR USE)

When you are completing the online variations e-form for a SRR application through the TBS portal, please include the following text in the comment section ***"This SRR application is at the request of the Pharmacovigilance Branch."*** Please also include this text in the cover letter of your dossier.

Sponsors can download the Public Case Detail (PCD) and Case Line Listing (CLL) reports relevant to this medicine and adverse event from the Adverse Event Management System (AEMS) portal. Further information on how to access and use the AEMS portal can be found on the TGA website in the AEMS guidance for sponsors: [AEMS guidance for sponsors | Therapeutic Goods Administration \(TGA\)](#).

Please do not hesitate to contact me via email **s22** @health.gov.au should you require further information. Please submit all written correspondence to me by email.

Thank you for your attention to this matter.

Kind regards

s22

References

- ¹ Sanchez-Alamo B, Cases-Corona C, Fernandez-Juarez G. Facing the Challenge of Drug-Induced Acute Interstitial Nephritis. *Nephron*. 2023;147(2):78-90. doi:10.1159/000525561
- ² Sierra F, Suarez M, Rey M, Vela MF. Systematic review: Proton pump inhibitor-associated acute interstitial nephritis. *Aliment Pharmacol Ther*. 2007;26(4):545-553. doi:10.1111/j.1365-2036.2007.03407.x
- ³ Weir MR. Proton Pump Inhibitors and Kidney Disease: Fact or Fiction?. *Am J Nephrol*. 2024;55(4):499-508. doi:10.1159/000538755
- ⁴ Simpson IJ, Marshall MR, Pilmore H, et al. Proton pump inhibitors and acute interstitial nephritis: report and analysis of 15 cases. *Nephrology (Carlton)*. 2006;11(5):381-385. doi:10.1111/j.1440-1797.2006.00651.x
- ⁵ Geevasinga N, Coleman PL, Webster AC, Roger SD. Proton pump inhibitors and acute interstitial nephritis. *Clin Gastroenterol Hepatol*. 2006;4(5):597-604. doi:10.1016/j.cgh.2005.11.004
- ⁶ Härmark L, van der Wiel HE, de Groot MC, van Grootheest AC. Proton pump inhibitor-induced acute interstitial nephritis. *Br J Clin Pharmacol*. 2007;64(6):819-823. doi:10.1111/j.1365-2125.2007.02927.x

s22

Pharmacist

Regulatory Outcomes and Risk Management Section (RORMS)
Pharmacovigilance Branch

Medicines Regulation Division | Health Products Regulation Group
 Australian Government, Department of Health and Aged Care
 T: **s22** | E: **s22** @health.gov.au
 Location: Level 12, 130 George St, Parramatta NSW 2150
 PO Box 100, Woden ACT 2606, Australia



The Department of Health and Aged Care acknowledges First Nations peoples as the Traditional Owners of Country throughout Australia, and their continuing connection to land, sea and community. We pay our respects to them and their cultures, and to all Elders both past and present.

From: [REDACTED]
 To: [REDACTED]@astrazeneca.com; [REDACTED]@astrazeneca.com; [REDACTED]@astrazeneca.com; [REDACTED]@astrazeneca.com; [REDACTED]@astrazeneca.com
 Cc: [REDACTED]@astrazeneca.com
 Subject: Regulatory Outcomes Stream
 Date: Product Information Update Notification: esomeprazole and tubulointerstitial nephritis (with possible progression to renal failure) [SEC=OFFICIAL]
 Attachments: Friday, 27 September 2024 9:28:19 AM
 image001.png
 image002.png
 image004.png

Dear [REDACTED] and [REDACTED]

This correspondence notifies you of the TGA's conclusion to include the risk of tubulointerstitial nephritis (TIN) with possible progression to renal failure in the Product Information (PI) for esomeprazole. The TGA expects AstraZeneca to update the Australian Product Information (PI) and Consumer Medicines Information (CMI) to include this new safety information for the following products:

ARTG No	Products
74133	NEXIUM esomeprazole 20mg (as magnesium trihydrate) tablet blister pack
74134	NEXIUM esomeprazole 40mg (as magnesium trihydrate) tablet blister pack
96678	NEXIUM IV esomeprazole 40mg (as sodium) powder for injection vial
135726	NEXIUM esomeprazole 10 mg (as magnesium trihydrate) enteric coated granules for oral suspension sachet
281690	NEXIUM Hp7 esomeprazole tablet, amoxicillin capsule, clarithromycin tablet composite pack
202457	AXAGON esomeprazole (as magnesium trihydrate) 20 mg tablet blister pack
202458	AXAGON esomeprazole (as magnesium trihydrate) 40 mg tablet blister pack
202463	REFEXIN esomeprazole (as magnesium trihydrate) 40 mg tablet blister pack
202464	REFEXIN esomeprazole (as magnesium trihydrate) 20 mg tablet blister pack
349670	ESOPREZE esomeprazole 20 mg (as magnesium trihydrate) tablet blister pack
349671	ESOPREZE esomeprazole 40 mg (as magnesium trihydrate) tablet blister pack

The TGA's conclusion to update the Australian PI is based on the following evidence:

Evidence	Summary
TGA Adverse Events Management System (AEMS)	<ul style="list-style-type: none"> A search of the AEMS database on 26 September 2024 using search terms 'esomeprazole', 'esomeprazole magnesium trihydrate' and PT 'tubulointerstitial nephritis' found 47 local cases. PT renal failure was co-reported in 3 cases and PT acute kidney injury was co-reported in 7 cases. The presence of Australian cases indicates there is a local signal for esomeprazole and TIN with possible progression to renal failure.
WHO adverse events database (Vigilyze)	<ul style="list-style-type: none"> A positive IC₀₂₅ value of 6.1 for 'esomeprazole' and PT 'tubulointerstitial nephritis' was obtained from Vigilyze on 26 September 2024. Of the 3738 cases reported, 3684 were reported as serious including 511 cases with a fatal outcome, 60 cases of a positive dechallenge, 1 case of a positive rechallenge and 192 cases where esomeprazole was the sole suspected drug. Notably, PT renal failure was co-reported in 1557 cases (41.7% of total cases) and PT acute kidney injury was co-reported in 2980 cases (79.7% of total cases).
Overseas product information and/or regulatory action	<ul style="list-style-type: none"> The EU SmPC for esomeprazole includes <i>interstitial nephritis; in some patients, renal failure has been reported concomitantly</i> in Section 4.8. The Australian population is not dissimilar to that of Europe and inclusion of this risk in the Australian PI will align with this international labelling.
Additional information	<ul style="list-style-type: none"> The Australian PI for other proton pump inhibitors (PPIs), including LOSEC (omeprazole), SOMAC (pantoprazole) and ZOTON (lansoprazole), already contain the risk of tubulointerstitial nephritis with possible progression to renal failure in Section 4.8. The Australian PI for LOSEC (omeprazole) also includes this risk in Section 4.4. The additional warning of possible progression to renal failure appropriately characterises the potential severity of TIN to healthcare professionals and ensures consistency across Australian PIs for PPIs. A literature search using PubMed on 23 September 2024 retrieved 6 articles in support of this signal.^{1,2,3,4,5,6} Articles highlighted the importance of timely diagnosis and prompt withdrawal of the offending agent to prevent potentially life-threatening renal failure.

Required action:

Identified safety issues require prompt risk mitigation to ensure ongoing public safety. I therefore request that you submit a Safety-Related Request (SRR) application to the Prescription Medicines Authorisation Branch (PMAB) under the provisions of section 9D(2) of the *Therapeutic Goods Act 1989* to effect the necessary changes outlined below, **no later than 25 October 2024**. (Wording to be added is blue and underlined.)

FOR NEXIUM and NEXIUM IV

4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE:

Acute tubulointerstitial nephritis

Acute tubulointerstitial nephritis has been observed in patients taking proton pump inhibitors (PPIs) including esomeprazole. Acute tubulointerstitial nephritis may occur at any point during PPI therapy and is generally attributed to idiopathic hypersensitivity reaction. Acute tubulointerstitial nephritis can progress to renal failure. Discontinue esomeprazole if acute tubulointerstitial nephritis develops.

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS):**Clinical trials and post-marketing data**

...

Renal and urinary disorders

Very rare: [tubulointerstitial nephritis](#) ([with possible progression to renal failure](#))

FOR NEXIUM Hp7**4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE:****[Acute tubulointerstitial nephritis](#)**

[Acute tubulointerstitial nephritis has been observed in patients taking proton pump inhibitors \(PPIs\) including esomeprazole. Acute tubulointerstitial nephritis may occur at any point during PPI therapy and is generally attributed to idiopathic hypersensitivity reaction. Acute tubulointerstitial nephritis can progress to renal failure. Discontinue NEXIUM Hp7 if acute tubulointerstitial nephritis develops.](#)

-

-

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS):

...

Table 2 Esomeprazole adverse drug reactions – Clinical trials data and/or post-marketing experience

...

System Organ Class	Frequency	Event
...		-
Renal and urinary disorders	Very rare	Tubulointerstitial nephritis (with possible progression to renal failure)

When you are completing the online variations e-form for a SRR application through the TBS portal, please include the following text in the comment section ***“This SRR application is at the request of the Pharmacovigilance Branch.”*** Please also include this text in the cover letter of your dossier.

All sponsors of esomeprazole products are expected to update the PI and CMI documents on this issue, irrespective of marketing status. This requirement to keep product information documents up to date with safety information, irrespective of marketing status, is outlined on the TGA website under ‘Pharmacovigilance obligations of medicine sponsors’ (<https://www.tga.gov.au/pharmacovigilance-obligations-medicine-sponsors>).

Sponsors can download the Public Case Detail (PCD) and Case Line Listing (CLL) reports relevant to this medicine and adverse event from the Adverse Event Management System (AEMS) portal. Further information on how to access and use the AEMS portal can be found on the TGA website in the AEMS guidance for sponsors: [AEMS guidance for sponsors | Therapeutic Goods Administration \(TGA\)](#).

Please do not hesitate to contact me via email s22@health.gov.au should you require further information. Please submit all written correspondence to me by email.

Thank you for your attention to this matter.

Kind regards

s22**References**

- ¹Sanchez-Alamo B, Cases-Corona C, Fernandez-Juarez G. Facing the Challenge of Drug-Induced Acute Interstitial Nephritis. *Nephron*. 2023;147(2):78-90. doi:10.1159/000525561
- ²Sierra F, Suarez M, Rey M, Vela MF. Systematic review: Proton pump inhibitor-associated acute interstitial nephritis. *Aliment Pharmacol Ther*. 2007;26(4):545-553. doi:10.1111/j.1365-2036.2007.03407.x
- ³Weir MR. Proton Pump Inhibitors and Kidney Disease: Fact or Fiction?. *Am J Nephrol*. 2024;55(4):499-508. doi:10.1159/000538755
- ⁴Simpson IJ, Marshall MR, Pilmore H, et al. Proton pump inhibitors and acute interstitial nephritis: report and analysis of 15 cases. *Nephrology (Carlton)*. 2006;11(5):381-385. doi:10.1111/j.1440-1797.2006.00651.x
- ⁵Geevasinga N, Coleman PL, Webster AC, Roger SD. Proton pump inhibitors and acute interstitial nephritis. *Clin Gastroenterol Hepatol*. 2006;4(5):597-604. doi:10.1016/j.cgh.2005.11.004
- ⁶Härmark L, van der Wiel HE, de Groot MC, van Grootheste AC. Proton pump inhibitor-induced acute interstitial nephritis. *Br J Clin Pharmacol*. 2007;64(6):819-823. doi:10.1111/j.1365-2125.2007.02927.x

s22**Pharmacist**

Regulatory Outcomes and Risk Management Section (RORMS)
Pharmacovigilance Branch

Medicines Regulation Division | Health Products Regulation Group
Australian Government, Department of Health and Aged Care
T: **s22** | E: **s22@health.gov.au**
Location: Level 12, 130 George St, Parramatta NSW 2150
PO Box 100, Woden ACT 2606, Australia



The Department of Health and Aged Care acknowledges First Nations peoples as the Traditional Owners of Country throughout Australia, and their continuing connection to land, sea and community. We pay our respects to them and their cultures, and to all Elders both past and present.

From: s22 [JACAU]
To: s22
Cc: s22 [Regulatory Outcomes Stream s22 [JACAU] s22 [JACAU] s22 [JACAU] s22 [JACAU] s22 [JACAU]
Subject: RE: Product Information Update Notification: rabeprazole and tubulointerstitial nephritis (with possible progression to renal failure) [SEC=OFFICIAL]
Date: Friday, 18 October 2024 11:32:29 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image005.png](#)
[241017-response to srr request.pdf](#)

Dear s22

Please find attached Janssen Global's response to the TGA request on 26 Sep 2024. As per the request, Janssen has submitted the Safety Related Request to update the PARIET PI (AUST R 76185 & 76186 - Prescription) on 17 Oct 24. The submission ID is **PM-2024-04888-1**. For the PARIET10 PI (AUST R 170438 - OTC), the updated PI was provided to the OTC section on 16 Oct 2024 to be evaluated as part of the existing PI update application in progress, **OM-2024-00719-1**.

Please reach out if you have any questions or concerns.

Best regards,

s22

s22

Regulatory Affairs Project Manager

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T: s22

M: s22

<https://www.jnj.com>

Janssen-Cilag Pty Ltd
66 Waterloo Road
Macquarie Park NSW 2113

Johnson&Johnson

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From: s22 [JACAU]
Sent: Thursday, 26 September 2024 2:43 PM
To: s22 @Health.gov.au>
Cc: s22 @Health.gov.au>; Regulatory Outcomes Stream <s22 @Health.gov.au>; s22 [JACAU] s22 @its.jnj.com>; s22 [JACAU] s22 @ITS.JNJ.com>; s22 [JACAU] s22 @its.jnj.com>; s22 [JACAU] s22 @its.jnj.com>; s22 [JACAU] s22 @its.jnj.com>
Subject: RE: Product Information Update Notification: rabeprazole and tubulointerstitial nephritis (with possible progression to renal failure) [SEC=OFFICIAL]

Dear s22

We confirm receipt of your request and will endeavour to respond as soon as possible.

s22

Regulatory Affairs Project Manager

s22 @its.jnj.com

T: s22

M: s22

<https://www.jnj.com>

Janssen-Cilag Pty Ltd
66 Waterloo Road
Macquarie Park NSW 2113

Johnson&Johnson

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Adverse Event Reporting:

If your message concerns an ADVERSE EVENT or SPECIAL SITUATION, please report it within 24 hours (and no later than Calendar Day three (3) in the event of public holiday) via Email at local.safety@its.jnj.com. If not possible, please call 1800 226 334 (from Australia) or 0800 800 806 (from New Zealand) during business hours.

Product Quality Complaint Reporting:

If your message relates to a PRODUCT QUALITY COMPLAINT please report it within 24 hours (and no later than Calendar Day three (3) in the event of public holiday) via Email at ra-janssencomplaints@its.jnj.com. If not possible, please call 1800 226 334 (from Australia) or 0800 800 806 (from New Zealand) during business hours.

Medical Information Enquiry:

If your email relates to a MEDICAL INFORMATION ENQUIRY, please visit www.janssenpro.com.au for available resources and services or email: medinfo@janau.jni.com. Alternatively please call 1800 226 334 (from Australia) or 0800 800 806 (from New Zealand) during business hours.

From: s22 [REDACTED]@Health.gov.au>

Sent: Thursday, 26 September 2024 12:40 PM

To: s22 [REDACTED] [JACAU] s22 [REDACTED]@its.jni.com>; s22 [REDACTED] [JACAU] <s22 [REDACTED]@ITS.JNI.com> s22 [REDACTED] [JACAU] <s22 [REDACTED]@its.jni.com>

Cc: s22 [REDACTED]@Health.gov.au>; Regulatory Outcomes Stream s22 [REDACTED]@Health.gov.au>

Subject: [EXTERNAL] Product Information Update Notification: rabeprazole and tubulointerstitial nephritis (with possible progression to renal failure) [SEC=OFFICIAL]

Dear s22 [REDACTED] and s22 [REDACTED]

The TGA has been notified of an international regulatory action amending the product safety information for rabeprazole to include the risk of tubulointerstitial nephritis (TIN) (with possible progression to renal failure). The TGA expects Janssen-Cilag to update the Australian Product Information (PI) and Consumer Medicine Information (CMI) in line with the international update for the following products:

ARTG No	Product
170438	PARIET 10 rabeprazole sodium 10 mg enteric-coated tablet blister pack
76185	PARIET rabeprazole sodium 10mg tablet blister pack
76186	PARIET rabeprazole sodium 20mg tablet blister pack

The TGA's conclusion to update the Australian PI is based on the following evidence:

Evidence	Summary
TGA Adverse Events Management System (AEMS)	<ul style="list-style-type: none"> A search of the AEMS database on 16 September 2024 using search terms 'rabeprazole' and PT 'tubulointerstitial nephritis' found 35 local cases. PT renal failure was co-reported in 3 cases and PT acute kidney injury was co-reported in 6 cases. The presence of Australian cases indicates there is a local signal for rabeprazole and TIN with possible progression to renal failure.
WHO adverse events database (Vigilyze)	<ul style="list-style-type: none"> A positive IC₀₂₅ value of 6.8 for 'rabeprazole' and PT 'tubulointerstitial nephritis' was obtained from Vigilyze on 16 September 2024. Of the 1153 cases reported, 1104 were reported as serious including 319 cases with a fatal outcome, 42 cases of a positive dechallenge, 1 case of a positive rechallenge and 71 cases where rabeprazole was the sole suspected drug. Notably, PT renal failure was co-reported in 266 cases (23.1% of total cases) and PT acute kidney injury was co-reported in 907 cases (78.7% of total cases).
Overseas product information and/or regulatory action	<ul style="list-style-type: none"> Tubulointerstitial nephritis (with possible progression to renal failure) is included in the EU SmPC for rabeprazole in Section 4.4 and 4.8. The Australian population is not dissimilar to that of Europe and inclusion of this risk in the Australian PI will align with this international labelling.
Additional information	<ul style="list-style-type: none"> The Australian PI for other proton pump inhibitors (PPIs), including LOSEC (omeprazole), SOMAC (pantoprazole) and ZOTON (lansoprazole), already contain the risk of tubulointerstitial nephritis (with possible progression to renal failure) in Section 4.8. The additional warning of possible progression to renal failure appropriately characterises the potential severity of TIN to healthcare professionals and ensures consistency across Australian PIs for PPIs. A literature search using PubMed on 23 September 2024 retrieved 6 articles in support of this signal.^{1,2,3,4,5,6} Articles highlighted the importance of timely diagnosis and prompt withdrawal of the offending agent to prevent potentially life-threatening renal failure.

Required action:

Identified safety issues require prompt risk mitigation to ensure ongoing public safety. I therefore request that you submit a Safety-Related Request (SRR) application to the Prescription Medicines Authorisation Branch (PMAB) under the provisions of section 9D(2) of the *Therapeutic Goods Act 1989* to effect the necessary changes outlined below, **no later than 24 October 2024**. (Wording to be added is blue and underlined, wording to be removed is in red strikethrough font.)

4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE:**Acute Tubulointerstitial ~~interstitial~~ Nephritis**

Acute tubulointerstitial nephritis (TIN) has been observed in patients taking proton-pump inhibitors (PPIs) including rabeprazole sodium. Acute tubulointerstitial nephritis may occur at any point during PPI therapy and is generally attributed to an idiopathic hypersensitivity reaction. Acute tubulointerstitial nephritis can progress to renal failure. Discontinue rabeprazole sodium if acute tubulointerstitial nephritis develops.

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS):

Post-marketing data

In addition to the adverse reactions reported during clinical studies and listed above, the following adverse reactions have been reported during post-marketing experience.

Erythema and rarely bullous reactions, urticarial skin eruptions and acute systemic allergic reactions, for example facial swelling, hypotension and dyspnoea have been reported in patients treated with PARIET. These usually resolved after discontinuation of therapy. Erythema multiforme, [tubulointerstitial nephritis](#) ([with possible progression to renal failure](#)), gynaecomastia, myalgia and potential allergic reactions including anaphylactic reactions have been reported rarely. Blood dyscrasia including thrombocytopenia, neutropenia, leukopenia, pancytopenia, agranulocytosis and bicytopenia have been reported rarely. Hypomagnesaemia has also been reported rarely. Hypocalcaemia and/or hypokalaemia have been reported, which may be related to the occurrence of hypomagnesaemia (see 4.4 SPECIAL WARNINGS PRECAUTIONS FOR USE)

When you are completing the online variations e-form for a SRR application through the TBS portal, please include the following text in the comment section **"This SRR application is at the request of the Pharmacovigilance Branch."** Please also include this text in the cover letter of your dossier.

Sponsors can download the Public Case Detail (PCD) and Case Line Listing (CLL) reports relevant to this medicine and adverse event from the Adverse Event Management System (AEMS) portal. Further information on how to access and use the AEMS portal can be found on the TGA website in the AEMS guidance for sponsors: [AEMS guidance for sponsors | Therapeutic Goods Administration \(TGA\)](#).

Please do not hesitate to contact me via email: s22@health.gov.au should you require further information. Please submit all written correspondence to me by email.

Thank you for your attention to this matter.

Kind regards

s22

References

- ¹Sanchez-Alamo B, Cases-Corona C, Fernandez-Juarez G. Facing the Challenge of Drug-Induced Acute Interstitial Nephritis. *Nephron*. 2023;147(2):78-90. doi:10.1159/000525561
- ²Sierra F, Suarez M, Rey M, Vela MF. Systematic review: Proton pump inhibitor-associated acute interstitial nephritis. *Aliment Pharmacol Ther*. 2007;26(4):545-553. doi:10.1111/j.1365-2036.2007.03407.x
- ³Weir MR. Proton Pump Inhibitors and Kidney Disease: Fact or Fiction?. *Am J Nephrol*. 2024;55(4):499-508. doi:10.1159/000538755
- ⁴Simpson IJ, Marshall MR, Pilmore H, et al. Proton pump inhibitors and acute interstitial nephritis: report and analysis of 15 cases. *Nephrology (Carlton)*. 2006;11(5):381-385. doi:10.1111/j.1440-1797.2006.00651.x
- ⁵Geevasinga N, Coleman PL, Webster AC, Roger SD. Proton pump inhibitors and acute interstitial nephritis. *Clin Gastroenterol Hepatol*. 2006;4(5):597-604. doi:10.1016/j.cgh.2005.11.004
- ⁶Härmark L, van der Wiel HE, de Groot MC, van Grootheest AC. Proton pump inhibitor-induced acute interstitial nephritis. *Br J Clin Pharmacol*. 2007;64(6):819-823. doi:10.1111/j.1365-2125.2007.02927.x

s22

Pharmacist

Regulatory Outcomes and Risk Management Section (RORMS)
Pharmacovigilance Branch

Medicines Regulation Division | Health Products Regulation Group
Australian Government, Department of Health and Aged Care
T: **s22** | E: **s22@health.gov.au**
Location: Level 12, 130 George St, Parramatta NSW 2150
PO Box 100, Woden ACT 2606, Australia



The Department of Health and Aged Care acknowledges First Nations peoples as the Traditional Owners of Country throughout Australia, and their continuing connection to land, sea and community. We pay our respects to them and their cultures, and to all Elders both past and present.

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Janssen Research & Development

Health Authority Response

Spontaneous Query Australia PARIET (rabeprazole) request for PI update related to tubulointerstitial nephritis (TIN)

JNJ-17021251 (rabeprazole sodium)

Status: Approved
Date: 11 October 2024
Prepared by: Janssen Research & Development
EDMS number: EDMS-RIM-1430145, 1.0

Confidentiality Statement

The information provided herein contains Company trade secrets, commercial or financial information that the Company customarily holds close and treats as confidential. The information is being provided under the assurance that the recipient will maintain the confidentiality of the information under applicable statutes, regulations, rules, protective orders or otherwise.

BACKGROUND

The Australia affiliate of Janssen Research & Development, L.L.C (JRD) received a health authority query on September 26, 2024, from the TGA (Therapeutic Goods Administration) requesting a labeling update. JRD responses are provided herein.

1. TGA QUESTION #1:

The TGA has been notified of an international regulatory action amending the product safety information for rabeprazole to include the risk of tubulointerstitial nephritis (TIN) (with possible progression to renal failure). The TGA expects Janssen-Cilag to update the Australian Product Information (PI) and Consumer Medicine Information (CMI) in line with the international update for the following products:

ARTG No	Product
170438	PARIET 10 rabeprazole sodium 10 mg enteric-coated tablet blister pack
76185	PARIET rabeprazole sodium 10mg tablet blister pack
76186	PARIET rabeprazole sodium 20mg tablet blister pack

The TGA's conclusion to update the Australian PI is based on the following evidence:

Evidence	Summary
TGA Adverse Events Management System (AEMS)	<ul style="list-style-type: none">A search of the AEMS database on 16 September 2024 using search terms 'rabeprazole' and PT 'tubulointerstitial nephritis' found 35 local cases. PT renal failure was co-reported in 3 cases and PT acute kidney injury was co-reported in 6 cases. The presence of Australian cases indicates there is a local signal for rabeprazole and TIN with possible progression to renal failure.
WHO adverse events database (Vigilyze)	<ul style="list-style-type: none">A positive IC025 value of 6.8 for 'rabeprazole' and PT 'tubulointerstitial nephritis' was obtained from Vigilyze on 16 September 2024. Of the 1153 cases reported, 1104 were reported as serious including 319 cases with a fatal outcome, 42 cases of a positive dechallenge, 1 case of a positive rechallenge and 71 cases where rabeprazole was the sole suspected drug. Notably, PT renal failure was coreported in 266 cases (23.1% of total cases) and PT acute kidney injury was co-reported in 907 cases (78.7% of total cases).
Overseas product information and/or regulatory action	<ul style="list-style-type: none">Tubulointerstitial nephritis (with possible progression to renal failure) is included in the EU SmPC for rabeprazole in Section 4.4 and 4.8. The Australian population is not dissimilar to that of Europe and inclusion of this risk in the Australian PI will align with this international labelling.
Additional information	<ul style="list-style-type: none">The Australian PI for other proton pump inhibitors (PPIs), including LOSEC (omeprazole), SOMAC (pantoprazole) and ZOTON (lansoprazole), already contain the risk of tubulointerstitial nephritis (with possible progression to renal failure) in Section 4.8. The additional warning of possible progression to renal failure appropriately characterises the potential severity of TIN to healthcare professionals and ensures consistency across Australian PIs for PPIs.A literature search using PubMed on 23 September 2024 retrieved 6 articles in support of this signal.^{1,2,3,4,5,6} Articles highlighted the importance of timely diagnosis and prompt withdrawal of the offending agent to prevent potentially life-threatening renal failure.

Required action:

Identified safety issues require prompt risk mitigation to ensure ongoing public safety. I therefore request that you submit a Safety-Related Request (SRR) application to the Prescription Medicines Authorisation Branch (PMAB) under the provisions of section 9D(2) of the Therapeutic Goods Act 1989 to effect the necessary changes outlined below, no later than 24 October 2024. (Wording to be added is blue and underlined, wording to be removed is in red strikethrough font.)

4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE:

Acute Tubulointerstitial ~~Interstitial~~ Nephritis

Acute tubulointerstitial nephritis (TIN) has been observed in patients taking proton-pump inhibitors (PPIs) including rabeprazole sodium. Acute tubulointerstitial nephritis may occur at any point during PPI therapy and is generally attributed to an idiopathic hypersensitivity reaction. Acute tubulointerstitial nephritis can progress to renal failure. Discontinue rabeprazole sodium if acute tubulointerstitial nephritis develops.

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS):

Post-marketing data

In addition to the adverse reactions reported during clinical studies and listed above, the following adverse reactions have been reported during post-marketing experience.

Erythema and rarely bullous reactions, urticarial skin eruptions and acute systemic allergic reactions, for example facial swelling, hypotension and dyspnoea have been reported in patients treated with PARIET. These usually resolved after discontinuation of therapy. Erythema multiforme, tubulointerstitial nephritis (with possible progression to renal failure), gynaecomastia, myalgia and potential allergic reactions including anaphylactic reactions have been reported rarely. Blood dyscrasia including thrombocytopenia, neutropenia, leukopenia, pancytopenia, agranulocytosis and bicytopenia have been reported rarely. Hypomagnesaemia has also been reported rarely. Hypocalcaemia and/or hypokalaemia have been reported, which may be related to the occurrence of hypomagnesaemia (see 4.4 SPECIAL WARNINGS PRECAUTIONS FOR USE)

Response

Eisai, Inc. (Eisai) is the owner of the Global Safety Database for AcipHex/PARIET (rabeprazole) and the Company Core Data Sheet (CCDS). Eisai conducted a cumulative review of literature and the post marketing data from Eisai's Global Safety Database, triggered by the US FDA safety labeling change notification received in June 2020, to determine if any additional changes to the CCDS were warranted. Based upon the review, Eisai concluded that no changes to the CCDS with respect to interstitial nephritis are recommended at that time and the current wording in Warnings and Precautions for Use of the rabeprazole CCDS was considered adequate. There is no new information in the literature or post marketing data that changes the previous Company position regarding the known adverse reaction of interstitial nephritis. However, we acknowledge the TGA's recommendation, and given the Australian Product Information already contains a warning for interstitial nephritis we agree to the proposed changes as follows:

4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE:

Acute Tubulointerstitial ~~Interstitial~~ Nephritis

Acute tubulointerstitial nephritis (TIN) has been observed in patients taking proton-pump inhibitors (PPIs) including rabeprazole sodium. Acute tubulointerstitial nephritis may occur at any point during PPI therapy and is generally attributed to an idiopathic hypersensitivity reaction. Acute tubulointerstitial nephritis can progress to renal failure. Discontinue rabeprazole sodium if acute tubulointerstitial nephritis develops.

The company agrees with the proposed text for section 4.8 Adverse Effects (Undesirable Effects) as follows:

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS):

Post-marketing data

In addition to the adverse reactions reported during clinical studies and listed above, the following adverse reactions have been reported during post-marketing experience.

Erythema and rarely bullous reactions, urticarial skin eruptions and acute systemic allergic reactions, for example facial swelling, hypotension and dyspnoea have been reported in patients treated with PARIET. These usually resolved after discontinuation of therapy. Erythema multiforme, tubulointerstitial nephritis (with possible progression to renal failure), gynaecomastia, myalgia and potential allergic reactions including anaphylactic reactions have been reported rarely. Blood dyscrasia including thrombocytopenia, neutropenia, leukopenia, pancytopenia, agranulocytosis and bicytopenia have been reported rarely. Hypomagnesaemia has also been reported rarely. Hypocalcaemia and/or hypokalaemia have been reported, which may be related to the occurrence of hypomagnesaemia (see 4.4 SPECIAL WARNINGS PRECAUTIONS FOR USE)

From: s22
To: s22
Cc: s22; Regulatory Outcomes s22
Subject: RE: Product Information Update Notification: esomeprazole and tubulointerstitial nephritis (with possible progression to renal failure) [SEC=OFFICIAL]
Date: Wednesday, 23 October 2024 2:02:28 PM
Attachments: [image001.png](#)
[image002.png](#)
[image004.png](#)
[safety-query-response-tga-nexium.pdf](#)

REMINDER: Think before you click! This email originated from outside our organisation. Only click links or open attachments if you recognise the sender and know the content is safe.

Dear s22

Hope you are well.

Please find attached document AstraZeneca's response to TGA request on Nexium and TIN.
Please do not hesitate to contact me for any questions.

Kind regards,

s22
Regulatory Affairs Associate

AstraZeneca
66 Talavera Road, Macquarie Park, NSW 2113, Australia
T: s22
s22@astrazeneca.com

 Please consider the environment before printing this e-mail

From: s22@astrazeneca.com>
Sent: Friday, September 27, 2024 10:16 AM
To: s22@Health.gov.au>; s22@astrazeneca.com>;
s22@astrazeneca.com>; s22@astrazeneca.com>; s22
s22@astrazeneca.com>; s22@astrazeneca.com>
Cc: s22@Health.gov.au>; Regulatory Outcomes Stream s22@Health.gov.au>; s22
@astrazeneca.com>; s22@astrazeneca.com>
Subject: RE: Product Information Update Notification: esomeprazole and tubulointerstitial nephritis (with possible progression to renal failure) [SEC=OFFICIAL]

Hello s22

Thank you very much for your correspondence regards Nexium and TIN.
AstraZeneca will provide you with a response by the requested due date.

With best wishes

s22

s22
Patient Safety Manager

AstraZeneca Australia and New Zealand, Patient Safety
66 Talavera Road, Macquarie Park, 2113
T: s22 M: s22 s22@astrazeneca.com | <https://contactazmedical.astrazeneca.com>

From: s22@Health.gov.au>
Sent: Friday, September 27, 2024 9:28 AM
To: s22@astrazeneca.com>; s22@astrazeneca.com>;
s22@astrazeneca.com>; s22@astrazeneca.com>; s22
s22@astrazeneca.com>; s22@astrazeneca.com>
Cc: s22@Health.gov.au>; Regulatory Outcomes Stream s22@Health.gov.au>
Subject: Product Information Update Notification: esomeprazole and tubulointerstitial nephritis (with possible progression to renal failure) [SEC=OFFICIAL]

Dear s22 and s22

This correspondence notifies you of the TGA's conclusion to include the risk of tubulointerstitial nephritis (TIN) with possible progression to renal failure in the Product Information (PI) for esomeprazole. The TGA expects AstraZeneca to update the Australian Product Information (PI) and Consumer Medicines Information (CMI) to include this new safety information for the following products:

ARTG No	Products
74133	NEXIUM esomeprazole 20mg (as magnesium trihydrate) tablet blister pack
74134	NEXIUM esomeprazole 40mg (as magnesium trihydrate) tablet blister pack
96678	NEXIUM IV esomeprazole 40mg (as sodium) powder for injection vial
135726	NEXIUM esomeprazole 10 mg (as magnesium trihydrate) enteric coated granules for oral suspension sachet
281690	NEXIUM Hp7 esomeprazole tablet, amoxicillin capsule, clarithromycin tablet composite pack
202457	AXAGON esomeprazole (as magnesium trihydrate) 20 mg tablet blister pack
202458	AXAGON esomeprazole (as magnesium trihydrate) 40 mg tablet blister pack
202463	REFEXXIN esomeprazole (as magnesium trihydrate) 40 mg tablet blister pack
202464	REFEXXIN esomeprazole (as magnesium trihydrate) 20 mg tablet blister pack
349670	ESOPREZE esomeprazole 20 mg (as magnesium trihydrate) tablet blister pack
349671	ESOPREZE esomeprazole 40 mg (as magnesium trihydrate) tablet blister pack

The TGA's conclusion to update the Australian PI is based on the following evidence:

Evidence	Summary
TGA Adverse Events Management System (AEMS)	<ul style="list-style-type: none"> A search of the AEMS database on 26 September 2024 using search terms 'esomeprazole', 'esomeprazole magnesium trihydrate' and PT 'tubulointerstitial nephritis' found 47 local cases. PT renal failure was co-reported in 3 cases and PT acute kidney injury was co-reported in 7 cases. The presence of Australian cases indicates there is a local signal for esomeprazole and TIN with possible progression to renal failure.
WHO adverse events database (Vigilyze)	<ul style="list-style-type: none"> A positive IC₀₂₅ value of 6.1 for 'esomeprazole' and PT 'tubulointerstitial nephritis' was obtained from Vigilyze on 26 September 2024. Of the 3738 cases reported, 3684 were reported as serious including 511 cases with a fatal outcome, 60 cases of a positive dechallenge, 1 case of a positive rechallenge and 192 cases where esomeprazole was the sole suspected drug. Notably, PT renal failure was co-reported in 1557 cases (41.7% of total cases) and PT acute kidney injury was co-reported in 2980 cases (79.7% of total cases).
Overseas product information and/or regulatory action	<ul style="list-style-type: none"> The EU SmPC for esomeprazole includes <i>interstitial nephritis; in some patients, renal failure has been reported concomitantly</i> in Section 4.8. The Australian population is not dissimilar to that of Europe and inclusion of this risk in the Australian PI will align with this international labelling.
Additional information	<ul style="list-style-type: none"> The Australian PI for other proton pump inhibitors (PPIs), including LOSEC (omeprazole), SOMAC (pantoprazole) and ZOTON (lansoprazole), already contain the risk of tubulointerstitial nephritis with possible progression to renal failure in Section 4.8. The Australian PI for LOSEC (omeprazole) also includes this risk in Section 4.4. The additional warning of possible progression to renal failure appropriately characterises the potential severity of TIN to healthcare professionals and ensures consistency across Australian PIs for PPIs. A literature search using PubMed on 23 September 2024 retrieved 6 articles in support of this signal.^{1,2,3,4,5,6} Articles highlighted the importance of timely diagnosis and prompt withdrawal of the offending agent to prevent potentially life-threatening renal failure.

Required action:

Identified safety issues require prompt risk mitigation to ensure ongoing public safety. I therefore request that you submit a Safety-Related Request (SRR) application to the Prescription Medicines Authorisation Branch (PMAB) under the provisions of section 9D(2) of the *Therapeutic Goods Act 1989* to effect the necessary changes outlined below, **no later than 25 October 2024**. (Wording to be added is blue and underlined.)

FOR NEXIUM and NEXIUM IV

4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE:

Acute tubulointerstitial nephritis

Acute tubulointerstitial nephritis has been observed in patients taking proton pump inhibitors (PPIs) including esomeprazole. Acute tubulointerstitial nephritis may occur at any point during PPI therapy and is generally attributed to idiopathic hypersensitivity reaction. Acute tubulointerstitial nephritis can progress to renal failure. Discontinue esomeprazole if acute tubulointerstitial nephritis develops.

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS):

Clinical trials and post-marketing data

...

Renal and urinary disorders

Very rare: tubulointerstitial nephritis (with possible progression to renal failure)

FOR NEXIUM Hp7

4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE:

Acute tubulointerstitial nephritis

[Acute tubulointerstitial nephritis has been observed in patients taking proton pump inhibitors \(PPIs\) including esomeprazole. Acute tubulointerstitial nephritis may occur at any point during PPI therapy and is generally attributed to idiopathic hypersensitivity reaction. Acute tubulointerstitial nephritis can progress to renal failure. Discontinue NEXIUM Hp7 if acute tubulointerstitial nephritis develops.](#)

-
-

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS):

...

Table 2 Esomeprazole adverse drug reactions – Clinical trials data and/or post-marketing experience

...

System Organ Class	Frequency	Event
Renal and urinary disorders	Very rare	- Tubulointerstitial nephritis (with possible progression to renal failure)

When you are completing the online variations e-form for a SRR application through the TBS portal, please include the following text in the comment section ***"This SRR application is at the request of the Pharmacovigilance Branch."*** Please also include this text in the cover letter of your dossier.

All sponsors of esomeprazole products are expected to update the PI and CMI documents on this issue, irrespective of marketing status. This requirement to keep product information documents up to date with safety information, irrespective of marketing status, is outlined on the TGA website under 'Pharmacovigilance obligations of medicine sponsors' (<https://www.tga.gov.au/pharmacovigilance-obligations-medicine-sponsors>).

Sponsors can download the Public Case Detail (PCD) and Case Line Listing (CLL) reports relevant to this medicine and adverse event from the Adverse Event Management System (AEMS) portal. Further information on how to access and use the AEMS portal can be found on the TGA website in the AEMS guidance for sponsors: [AEMS guidance for sponsors | Therapeutic Goods Administration \(TGA\)](#).

Please do not hesitate to contact me via email s22@health.gov.au should you require further information. Please submit all written correspondence to me by email.

Thank you for your attention to this matter.

Kind regards

s22

References

- ¹Sanchez-Alamo B, Cases-Corona C, Fernandez-Juarez G. Facing the Challenge of Drug-Induced Acute Interstitial Nephritis. *Nephron*. 2023;147(2):78-90. doi:10.1159/000525561
- ²Sierra F, Suarez M, Rey M, Vela MF. Systematic review: Proton pump inhibitor-associated acute interstitial nephritis. *Aliment Pharmacol Ther*. 2007;26(4):545-553. doi:10.1111/j.1365-2036.2007.03407.x
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- ⁴Simpson IJ, Marshall MR, Pilmore H, et al. Proton pump inhibitors and acute interstitial nephritis: report and analysis of 15 cases. *Nephrology (Carlton)*. 2006;11(5):381-385. doi:10.1111/j.1440-1797.2006.00651.x
- ⁵Geevasinga N, Coleman PL, Webster AC, Roger SD. Proton pump inhibitors and acute interstitial nephritis. *Clin Gastroenterol Hepatol*. 2006;4(5):597-604. doi:10.1016/j.cgh.2005.11.004
- ⁶Härmark L, van der Wiel HE, de Groot MC, van Grootheest AC. Proton pump inhibitor-induced acute interstitial nephritis. *Br J Clin Pharmacol*. 2007;64(6):819-823. doi:10.1111/j.1365-2125.2007.02927.x

s22

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Regulatory Outcomes and Risk Management Section (RORMS)
Pharmacovigilance Branch

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Location: Level 12, 130 George St, Parramatta NSW 2150
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Response Document

NEXIUM (esomeprazole)

Date: 21 October 2024

NEXIUM/ESOPREZE/AXAGON/REFEXXIN (Esomeprazole)

AstraZeneca's Response to Therapeutic Goods Administration's (TGA) Safety related request to update the Product Information (PI) for NEXIUM (Oral and IV formulation) to include the risk of tubulointerstitial nephritis (TIN) with possible progression to renal failure

This document contains trade secrets and confidential commercial information, disclosure of which is prohibited without providing advance notice to AstraZeneca and opportunity to object.

TABLE OF CONTENTS

TABLE OF CONTENTS2

1 INTRODUCTION3

2 TGA SAFETY RELATED REQUEST AND ASTRAZENECA’S
RESPONSES3

2.1 TGA request to update section 4.4 and 4.8 for NEXIUM and NEXIUM IV and
oral PI.....3

2.2 TGA request to update section 4.4 and 4.8 for NEXIUM Hp74

3 REFERENCES6

1 INTRODUCTION

On 27 September 2024, AstraZeneca received a Safety-Related Request from the Therapeutic Goods Administration's (TGA) under the provisions of Section 9D(2) of the Therapeutic Goods Act 1989 to update the risk of tubulointerstitial nephritis (TIN) with possible progression to renal failure in Section 4.4 (Special Warnings and Precautions for use) and Section 4.8 (Adverse Effects [Undesirable Effects]) of the Nexium Product Information (PI) and Consumer Medicines Information (CMI) for both oral and intravenous (IV) formulation.

The purpose of this document is to provide a response to the TGA safety related request.

2 TGA SAFETY RELATED REQUEST AND ASTRAZENECA'S RESPONSES

2.1 TGA request to update section 4.4 and 4.8 for NEXIUM and NEXIUM IV and oral PI

Wordings to be added are blue and underlined.

4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE:

Acute tubulointerstitial nephritis

Acute tubulointerstitial nephritis has been observed in patients taking proton pump inhibitors (PPIs) including esomeprazole. Acute tubulointerstitial nephritis may occur at any point during PPI therapy and is generally attributed to idiopathic hypersensitivity reaction. Acute tubulointerstitial nephritis can progress to renal failure. Discontinue esomeprazole if acute tubulointerstitial nephritis develops.

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS):

Clinical trials and post-marketing data

Renal and urinary disorders

Very rare: tubulointerstitial nephritis (with possible progression to renal failure)

AstraZeneca response: AstraZeneca acknowledges the TGA's query and respectfully disagrees with the recommendation to reword warning on interstitial nephritis in Section 4.4 and inclusion of the proposed text "(with possible progression to renal failure)" in Section 4.8 of the Australian PI and CMI. Interstitial nephritis is a well-recognized adverse drug reaction (ADR) of proton pump inhibitors (PPIs) including NEXIUM. It is AstraZeneca's view that the clinical course and manifestations of interstitial nephritis as well as potential occurrence of acute renal failure as a result of interstitial nephritis is well known to prescribers.

Moreover, AstraZeneca is of the opinion that the renal safety profile of NEXIUM has not changed in any meaningful way over recent years (in particular, since AstraZeneca's comprehensive review of the topic in 2020) and the previous understanding of this ADR

remains the same. Additionally, AstraZeneca is routinely monitoring this topic as per internal process and based on the review of the cases from AstraZeneca's global safety database and literature till 10 September 2024, no new significant information has been identified on progression of Interstitial nephritis to renal failure.

Additionally, AstraZeneca is of the opinion that the change in term to 'acute tubulointerstitial nephritis' will not change the current understanding of the pathophysiology of acute interstitial nephritis by prescribing physicians. Hence, AstraZeneca suggests retaining the term acute interstitial nephritis in Section 4.4 and Section 4.8 of the Australian PI.

AstraZeneca comment on the articles referred to by TGA is provided below:

The literature references shared by TGA included four case series ([Geevasinga et al 2006](#), [Härmark et al 2007](#), [Simpson et al 2006](#), [Sierra et al 2007](#)) of acute tubulointerstitial nephritis (ATIN) due to PPI therapy. These publications from 2006-2007 had been previously reviewed by AstraZeneca and taken into consideration in our safety position on this condition. [Sanchez-Alamo et al 2023](#) is a review article focussing on drug-induced ATIN, but not specific to PPIs. The authors reviewed a number of studies that suggest that PPIs may be associated with an increased risk of chronic kidney disease (CKD). However, they point out that these studies have major limitations such as modest associations and considerable potential for residual confounders. As with other types of acute kidney injury, drug-induced ATIN, especially when diagnosis is delayed or missed, can result in incomplete renal recovery and permanent kidney damage. This has been highlighted in various ATIN case series published around 15 to 20 years ago and there is no new relevant information presented here. [Weir et al 2024](#) is a review article looking at the evidence linking ATIN and CKD. Many of the studies reviewed in this paper had substantial statistical and epidemiologic weaknesses, e.g. not adjusting for baseline kidney function, concomitant medication use, or medical comorbidities as well as likely residual confounding. The author concludes that there is insufficient evidence to link PPI exposure with the development or progression of CKD.

Based on these publications, it is AstraZeneca's opinion that there is no new relevant information or change in the current safety profile of this drug class.

Therefore, it is AstraZeneca's opinion that the ADR of interstitial nephritis in Section 4.8 adequately informs prescribers of the current clinical knowledge on the topic, and that further label changes are not warranted (i.e. to Sections 4.4 and Section 4.8 of the Australian PI and CMI).

2.2 TGA request to update section 4.4 and 4.8 for NEXIUM Hp7

Wordings to be added are blue and underlined.

4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE:

Acute tubulointerstitial nephritis

Acute tubulointerstitial nephritis has been observed in patients taking proton pump inhibitors (PPIs) including esomeprazole. Acute tubulointerstitial nephritis may occur at any point during PPI therapy and is generally attributed to idiopathic hypersensitivity reaction. Acute tubulointerstitial nephritis can progress to renal failure. Discontinue NEXIUM Hp7 if acute tubulointerstitial nephritis develops.

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS):

Table 2 Esomeprazole adverse drug reactions – Clinical trials data and/or post-marketing experience

System	Organ Class	Frequency	Event
...			
Renal and urinary disorders		Very rare	<u>Tubulo</u> interstitial nephritis (with possible progression to renal failure)

AstraZeneca’s Response: Please refer to our response above (Section 2.1). Since NEXIUM Hp7 is a secondary brand of NEXIUM (Primary brand), label updates will be followed as per primary brand.

3 REFERENCES

Geevasinga et al 2006

Geevasinga N, Coleman PL, Webster AC, Roger SD. Proton Pump Inhibitors and Acute Interstitial Nephritis. CLINICAL GASTROENTEROLOGY AND HEPATOLOGY 2006;4:597–604.

Simpson et al 2006

Simpson IJ, Marshall MR, Pilmore H, et al. Proton pump inhibitors and acute interstitial nephritis: report and analysis of 15 cases. Nephrology (Carlton). 2006;11(5):381-85.

Härmark et al 2007

Härmark L, van der Wiel HE, de Groot MC, van Grootheest AC. Proton pump inhibitor-induced acute interstitial nephritis. Br J Clin Pharmacol. 2007 Dec;64(6):819-23.

Sierra et al 2007

Sierra F, Suarez M, Rey M, Vela MF. Systematic review: Proton pump inhibitor-associated acute interstitial nephritis. Aliment Pharmacol Ther. 2007;26(4):545-53.

Sanchez-Alamo et al 2023

Sanchez-Alamo B, Cases-Corona C, Fernandez-Juarez G. Facing the Challenge of Drug-Induced Acute Interstitial Nephritis. Nephron. 2023;147(2):78-90.

Weir et al 2024

Weir MR. Proton Pump Inhibitors and Kidney Disease: Fact or Fiction?. Am J Nephrol. 2024;55(4):499-508.

From: [REDACTED]
 To: [REDACTED]
 Cc: [REDACTED]; Regulatory Outcomes Stream; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]
 Subject: RE: Product Information Update Notification: esomeprazole and tubulointerstitial nephritis (with possible progression to renal failure) [SEC=OFFICIAL]
 Date: Tuesday, 29 October 2024 11:26:37 AM
 Attachments: [image001.png](#)
[image002.png](#)
[image004.png](#)

Dear [REDACTED]

Thank you for your response regarding safety-related changes to the Product Information (PI) for NEXIUM, NEXIUM IV and NEXIUM Hp7 relating to tubulointerstitial nephritis (with possible progression to renal failure). We appreciate your considered response to the TGA request.

We are undertaking a class update to ensure consistency across the Australian PIs of all proton pump inhibitors. The inclusion of tubulointerstitial nephritis (with possible progression to renal failure) will increase awareness of medical practitioners, assisting with timely diagnosis and management of this severe and potentially life-threatening outcome. We consider that a listed warning in the PI will provide a clear warning to health professionals rather than an implied understanding of the adverse effect.

Based on its inclusion in the PI of a comparable overseas regulator, the reasons set out in our email of 27 September 2024 and those outlined above, we reiterate the TGA's initial request to update Sections 4.4 and 4.8 of the PI for the products.

Required PI changes:

After consideration of the further evidence provided by AstraZeneca, the TGA respectfully declines AstraZeneca's request to keep the NEXIUM, NEXIUM IV and NEXIUM Hp7 PIs unchanged. Therefore, we request AstraZeneca to submit a Safety-Related Request (SRR) application to the Prescription Medicines Authorisation Branch (PMAB) under the provisions of section 9D(2) of the Therapeutic Goods Act 1989 to effect the necessary changes outlined below, **no later than 12 November 2024.**

FOR NEXIUM and NEXIUM IV

4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE:

Acute tubulointerstitial nephritis

Acute tubulointerstitial nephritis has been observed in patients taking proton pump inhibitors (PPIs) including esomeprazole. Acute tubulointerstitial nephritis may occur at any point during PPI therapy and is generally attributed to idiopathic hypersensitivity reaction. Acute tubulointerstitial nephritis can progress to renal failure. Discontinue esomeprazole if acute tubulointerstitial nephritis develops.

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS):

Clinical trials and post-marketing data

...

Renal and urinary disorders

Very rare: tubulointerstitial nephritis (with possible progression to renal failure)

-

FOR NEXIUM Hp7

4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE:

Acute tubulointerstitial nephritis

Acute tubulointerstitial nephritis has been observed in patients taking proton pump inhibitors (PPIs) including esomeprazole. Acute tubulointerstitial nephritis may occur at any point during PPI therapy and is generally attributed to idiopathic hypersensitivity reaction. Acute tubulointerstitial nephritis can progress to renal failure. Discontinue NEXIUM Hp7 if acute tubulointerstitial nephritis develops.

-

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS):

...

Table 2 Esomeprazole adverse drug reactions – Clinical trials data and/or post-marketing experience

...

System Organ Class	Frequency	Event
...		-
Renal and urinary disorders	Very rare	<u>Tubulointerstitial nephritis (with possible progression to renal failure)</u>

When you are completing the online variations e-form for a SRR application through the TBS portal, please include the following text in the comment section **"This SRR application is at the request of the Pharmacovigilance Branch."** Please also include this text in the cover letter of your dossier.

Kind regards

[REDACTED]

§22

Pharmacist
Regulatory Outcomes and Risk Management Section (RORMS)
Pharmacovigilance Branch

Medicines Regulation Division | Health Products Regulation Group
Australian Government, Department of Health and Aged Care
T: §22 | E: §22 @health.gov.au
Location: Level 12, 130 George St, Parramatta NSW 2150
PO Box 100, Woden ACT 2606, Australia



The Department of Health and Aged Care acknowledges First Nations peoples as the Traditional Owners of Country throughout Australia, and their continuing connection to land, sea and community. We pay our respects to them and their cultures, and to all Elders both past and present.

From: §22 @astrazeneca.com>

Sent: Wednesday, 23 October 2024 2:02 PM

To: §22 @astrazeneca.com>; §22 @Health.gov.au>; §22 @astrazeneca.com>; §22 @astrazeneca.com>; §22 @astrazeneca.com>; §22 @astrazeneca.com>

Cc: §22 @Health.gov.au>; Regulatory Outcomes Stream §22 @Health.gov.au>; §22 @astrazeneca.com>

Subject: RE: Product Information Update Notification: esomeprazole and tubulointerstitial nephritis (with possible progression to renal failure) [SEC=OFFICIAL]

REMINDER: Think before you click! This email originated from outside our organisation. Only click links or open attachments if you recognise the sender and know the content is safe.

Dear §22

Hope you are well.

Please find attached document AstraZeneca's response to TGA request on Nexium and TIN.
Please do not hesitate to contact me for any questions.

Kind regards,

§22

Regulatory Affairs Associate

AstraZeneca
66 Talavera Road, Macquarie Park, NSW 2113, Australia
T: §22
§22 @astrazeneca.com

Please consider the environment before printing this e-mail

From: §22 @astrazeneca.com>

Sent: Friday, September 27, 2024 10:16 AM

To: §22 @Health.gov.au>; §22 @astrazeneca.com>; §22 @astrazeneca.com>; §22 @astrazeneca.com>; §22 @astrazeneca.com>; §22 @astrazeneca.com>

Cc: §22 @Health.gov.au>; Regulatory Outcomes Stream §22 @Health.gov.au>; §22 @astrazeneca.com>; §22 @astrazeneca.com>

Subject: RE: Product Information Update Notification: esomeprazole and tubulointerstitial nephritis (with possible progression to renal failure) [SEC=OFFICIAL]

Hello §22

Thank you very much for your correspondence regards Nexium and TIN.
AstraZeneca will provide you with a response by the requested due date.

With best wishes

§22

§22

Patient Safety Manager

AstraZeneca Australia and New Zealand, Patient Safety

66 Talavera Road, Macquarie Park, 2113

T: s22 M: s22 @astrazeneca.com | <https://contactazmedical.astrazeneca.com>**From:** s22 @Health.gov.au>**Sent:** Friday, September 27, 2024 9:28 AM**To:** s22 @astrazeneca.com>; s22 @astrazeneca.com>;

s22 @astrazeneca.com>; s22 @astrazeneca.com>; s22

s22 @astrazeneca.com>; s22 @astrazeneca.com>

Cc: s22 @Health.gov.au>; Regulatory Outcomes Stream s22 @Health.gov.au>**Subject:** Product Information Update Notification: esomeprazole and tubulointerstitial nephritis (with possible progression to renal failure) [SEC=OFFICIAL]

Dear s22 and s22

This correspondence notifies you of the TGA's conclusion to include the risk of tubulointerstitial nephritis (TIN) with possible progression to renal failure in the Product Information (PI) for esomeprazole. The TGA expects AstraZeneca to update the Australian Product Information (PI) and Consumer Medicines Information (CMI) to include this new safety information for the following products:

ARTG No	Products
74133	NEXIUM esomeprazole 20mg (as magnesium trihydrate) tablet blister pack
74134	NEXIUM esomeprazole 40mg (as magnesium trihydrate) tablet blister pack
96678	NEXIUM IV esomeprazole 40mg (as sodium) powder for injection vial
135726	NEXIUM esomeprazole 10 mg (as magnesium trihydrate) enteric coated granules for oral suspension sachet
281690	NEXIUM Hp7 esomeprazole tablet, amoxicillin capsule, clarithromycin tablet composite pack
202457	AXAGON esomeprazole (as magnesium trihydrate) 20 mg tablet blister pack
202458	AXAGON esomeprazole (as magnesium trihydrate) 40 mg tablet blister pack
202463	REFEXIN esomeprazole (as magnesium trihydrate) 40 mg tablet blister pack
202464	REFEXIN esomeprazole (as magnesium trihydrate) 20 mg tablet blister pack
349670	ESOPREZE esomeprazole 20 mg (as magnesium trihydrate) tablet blister pack
349671	ESOPREZE esomeprazole 40 mg (as magnesium trihydrate) tablet blister pack

The TGA's conclusion to update the Australian PI is based on the following evidence:

Evidence	Summary
TGA Adverse Events Management System (AEMS)	<ul style="list-style-type: none"> A search of the AEMS database on 26 September 2024 using search terms 'esomeprazole', 'esomeprazole magnesium trihydrate' and PT 'tubulointerstitial nephritis' found 47 local cases. PT renal failure was co-reported in 3 cases and PT acute kidney injury was co-reported in 7 cases. The presence of Australian cases indicates there is a local signal for esomeprazole and TIN with possible progression to renal failure.
WHO adverse events database (Vigilyze)	<ul style="list-style-type: none"> A positive IC₀₂₅ value of 6.1 for 'esomeprazole' and PT 'tubulointerstitial nephritis' was obtained from Vigilyze on 26 September 2024. Of the 3738 cases reported, 3684 were reported as serious including 511 cases with a fatal outcome, 60 cases of a positive dechallenge, 1 case of a positive rechallenge and 192 cases where esomeprazole was the sole suspected drug. Notably, PT renal failure was co-reported in 1557 cases (41.7% of total cases) and PT acute kidney injury was co-reported in 2980 cases (79.7% of total cases).
Overseas product information and/or regulatory action	<ul style="list-style-type: none"> The EU SmPC for esomeprazole includes <i>interstitial nephritis; in some patients, renal failure has been reported concomitantly</i> in Section 4.8. The Australian population is not dissimilar to that of Europe and inclusion of this risk in the Australian PI will align with this international labelling.
Additional information	<ul style="list-style-type: none"> The Australian PI for other proton pump inhibitors (PPIs), including LOSEC (omeprazole), SOMAC (pantoprazole) and ZOTON (lansoprazole), already contain the risk of tubulointerstitial nephritis with possible progression to renal failure in Section 4.8. The Australian PI for LOSEC (omeprazole) also includes this risk in Section 4.4. The additional warning of possible progression to renal failure appropriately characterises the potential severity of TIN to healthcare professionals and ensures consistency across Australian PIs for PPIs. A literature search using PubMed on 23 September 2024 retrieved 6 articles in support of this signal.^{1,2,3,4,5,6} Articles highlighted the importance of timely diagnosis and prompt withdrawal of the offending agent to prevent potentially life-threatening renal failure.

Required action:

Identified safety issues require prompt risk mitigation to ensure ongoing public safety. I therefore request that you submit a Safety-Related Request (SRR) application to the Prescription Medicines Authorisation Branch (PMAB) under the provisions of section 9D(2) of the *Therapeutic Goods Act 1989* to effect the necessary changes outlined below, **no later than 25 October 2024**. (Wording to be added is blue and underlined.)

FOR NEXIUM and NEXIUM IV**4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE:****Acute [tubulointerstitial nephritis](#)**

Acute [tubulointerstitial nephritis](#) has been observed in patients taking proton pump inhibitors (PPIs) including esomeprazole. Acute [tubulointerstitial nephritis](#) may occur at any point during PPI therapy and is generally attributed to idiopathic hypersensitivity reaction. [Acute tubulointerstitial nephritis can progress to renal failure](#). Discontinue esomeprazole if acute [tubulointerstitial nephritis](#) develops.

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS):**Clinical trials and post-marketing data**

...

Renal and urinary disorders

Very rare: [tubulointerstitial nephritis \(with possible progression to renal failure\)](#)

FOR NEXIUM Hp7**4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE:****[Acute tubulointerstitial nephritis](#)**

[Acute tubulointerstitial nephritis has been observed in patients taking proton pump inhibitors \(PPIs\) including esomeprazole. Acute tubulointerstitial nephritis may occur at any point during PPI therapy and is generally attributed to idiopathic hypersensitivity reaction. Acute tubulointerstitial nephritis can progress to renal failure. Discontinue NEXIUM Hp7 if acute tubulointerstitial nephritis develops.](#)

-

-

4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS):

...

Table 2 Esomeprazole adverse drug reactions – Clinical trials data and/or post-marketing experience

...

System Organ Class	Frequency	Event
...		-
Renal and urinary disorders	Very rare	Tubulointerstitial nephritis (with possible progression to renal failure)

When you are completing the online variations e-form for a SRR application through the TBS portal, please include the following text in the comment section ***“This SRR application is at the request of the Pharmacovigilance Branch.”*** Please also include this text in the cover letter of your dossier.

All sponsors of esomeprazole products are expected to update the PI and CMI documents on this issue, irrespective of marketing status. This requirement to keep product information documents up to date with safety information, irrespective of marketing status, is outlined on the TGA website under ‘Pharmacovigilance obligations of medicine sponsors’ (<https://www.tga.gov.au/pharmacovigilance-obligations-medicine-sponsors>).

Sponsors can download the Public Case Detail (PCD) and Case Line Listing (CLL) reports relevant to this medicine and adverse event from the Adverse Event Management System (AEMS) portal. Further information on how to access and use the AEMS portal can be found on the TGA website in the AEMS guidance for sponsors: [AEMS guidance for sponsors | Therapeutic Goods Administration \(TGA\)](#).

Please do not hesitate to contact me via email s22@health.gov.au should you require further information. Please submit all written correspondence to me by email.

Thank you for your attention to this matter.

Kind regards

s22

References

- ¹Sanchez-Alamo B, Cases-Corona C, Fernandez-Juarez G. Facing the Challenge of Drug-Induced Acute Interstitial Nephritis. Nephron. 2023;147(2):78-90. doi:10.1159/000525561
- ²Sierra F, Suarez M, Rey M, Vela MF. Systematic review: Proton pump inhibitor-associated acute interstitial nephritis. Aliment Pharmacol Ther. 2007;26(4):545-553. doi:10.1111/j.1365-2036.2007.03407.x
- ³Weir MR. Proton Pump Inhibitors and Kidney Disease: Fact or Fiction?. Am J Nephrol. 2024;55(4):499-508. doi:10.1159/000538755
- ⁴Simpson IJ, Marshall MR, Pilmore H, et al. Proton pump inhibitors and acute interstitial nephritis: report and analysis of 15 cases. Nephrology (Carlton). 2006;11(5):381-385. doi:10.1111/j.1440-1797.2006.00651.x
- ⁵Geevasinga N, Coleman PL, Webster AC, Roger SD. Proton pump inhibitors and acute interstitial nephritis. Clin Gastroenterol Hepatol. 2006;4(5):597-604. doi:10.1016/j.cgh.2005.11.004
- ⁶Härmark L, van der Wiel HE, de Groot MC, van Grootheest AC. Proton pump inhibitor-induced acute interstitial nephritis. Br J Clin Pharmacol. 2007;64(6):819-823. doi:10.1111/j.1365-2125.2007.02927.x

s22

Pharmacist
Regulatory Outcomes and Risk Management Section (RORMS)
Pharmacovigilance Branch

Medicines Regulation Division | Health Products Regulation Group
Australian Government, Department of Health and Aged Care
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Location: Level 12, 130 George St, Parramatta NSW 2150
PO Box 100, Woden ACT 2606, Australia



The Department of Health and Aged Care acknowledges First Nations peoples as the Traditional Owners of Country throughout Australia, and their continuing connection to land, sea and community. We pay our respects to them and their cultures, and to all Elders both past and present.

"Important: This transmission is intended only for the use of the addressee and may contain confidential or legally privileged information. If you are not the intended recipient, you are notified that any use or dissemination of this communication is strictly prohibited. If you receive this transmission in error please notify the author immediately and delete all copies of this transmission."

AU-TGA-0000322592**Case details:****Original received date:** 3/07/2013**Creation date:** 3/07/2013**Date sent to WHO:** 12/08/2013**Involves an unapproved product?:** No**Unapproved product access:****Modified on:** 23/06/2018**Decision Reason:** Causality possible**Serious ICSR:** No**Sender details:**

Janssen Cilag

1-5 Khartoum Road

Macquarie Park NSW 2113

Sender type: Pharmaceutical Company**Sender's ICSR identifier:** s22 ANZ0354441**Patient details:****Patient initials:** s22 ANZ0354441**Sex:** Female**Weight:****Age:** 92 (Year)**Date of birth:****State:****Ethnicity:****Reporter details:****Phone:****Case narrative:**

s22

Reactions:

Preferred term	Onset date	End date	Outcome
Blood creatinine increased			Recovering/resolving
Chronic kidney disease			Recovering/resolving

Drug information:

Product name				Role characterisation		Action taken	
TN006266 Pariet - Pariet				Suspect		Unknown	
Active Ingredient/s							
Rabeprazole sodium ()							
Dosage/s							
Dose	Interval	Dose form	Route of admin	Start date	End date	Batch	
Dose Unspecified			Oral				
Additional information							
TN004812 Pariet GN002640 Rabeprazole Sodium							
Product name				Role characterisation		Action taken	
TN000857 Astrix 100 - Astrix 100				Concomitant		Unknown	
Active Ingredient/s							
Aspirin ()							
Dosage/s							
Dose	Interval	Dose form	Route of admin	Start date	End date	Batch	
Additional information							
TN000524 Astrix 100 GN000241 Aspirin							
Product name				Role characterisation		Action taken	
TN002068 Citracal - Citracal				Concomitant		Unknown	
Active Ingredient/s							
Calcium citrate ()							
Dosage/s							
Dose	Interval	Dose form	Route of admin	Start date	End date	Batch	
Additional information							
TN0850 Citracal GN004346 Calcium Citrate							
Product name				Role characterisation		Action taken	
TN003395 Fosamax - Fosamax				Concomitant		Unknown	
Active Ingredient/s							
alendronate sodium ()							
Dosage/s							
Dose	Interval	Dose form	Route of admin	Start date	End date	Batch	
Additional information							
TN002550 Fosamax GN000074 Alendronate Sodium							

Product name		Role characterisation		Action taken		
TN005464 Noten - Noten		Concomitant		Unknown		
Active Ingredient/s						
Atenolol ()						
Dosage/s						
Dose	Interval	Dose form	Route of admin	Start date	End date	Batch
Additional information						
TN004490 Noten GN000246 Atenolol						

Tests and procedures:

SUSPECT ADVERSE REACTION REPORT

Mfr. Control No. :AU-Eisai Inc-E3810- Cont...

I. REACTION INFORMATION

1. PATIENT INITIALS S22	1a. COUNTRY AUSTRALIA	2. DATE OF BIRTH			2a. AGE YRS 92	3. SEX F	4-6. REACTION ONSET			8.-12. CHECK ALL APPROPRIATE TO ADVERSE REACTION
		DA	MO	YR			DA	MO	YR 2013	
7.+13. DESCRIBE REACTION(S) (include relevant test/lab data) CHRONIC KIDNEY DISEASE (Chronic kidney disease (10064848), Renal failure chronic (10038444)) [v.16.0] Protocol relatedness: As per reporter: As per company: CREATININE INCREASE (Serum creatinine increased (10040233), Blood creatinine increased (10005483)) [v.16.0] Protocol relatedness: As per reporter: As per company: A spontaneous report was received from a health professional, concerning a 92 year-old female patient who experienced chronic kidney disease and serum Cr results increased while receiving rabeprazole for an unknown indication. Cont...										<input type="checkbox"/> PATIENT DIED <input type="checkbox"/> LIFE THREATENING <input type="checkbox"/> INVOLVED OR PROLONGED INPATIENT HOSPITALIZATION <input type="checkbox"/> RESULTS IN PERSISTENT OR SIGNIFICANT DISABILITY/ INCAPACITY <input type="checkbox"/> CONGENITAL ANOMALY <input checked="" type="checkbox"/> OTHER MEDICALLY IMPORTANT CONDITION

II. SUSPECT DRUG(S) INFORMATION

14. SUSPECT DRUG(S) (include generic name) Subject Unblinded : PARIET (RABEPRAZOLE) (RABEPRAZOLE)		20. DID EVENT ABATE AFTER STOPPING DRUG? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA
15. DAILY DOSE	16. ROUTE OF ADMINISTRATION Oral	21. DID EVENT REAPPEAR AFTER REINTRODUCTION? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> NA
17. INDICATIONS FOR USE		
18. THERAPY DATES (From/To) /05/2009 - //2013	19. THERAPY DURATION 4 Years	

III. CONCOMITANT DRUGS AND HISTORY

22. CONCOMITANT DRUGS AND DATES OF ADMINISTRATION (Exclude those used to treat event)	
CITRACAL (CALCIUM CITRATE)	Unknown
ASTRIX (ACETYLSALICYLIC ACID)	Unknown
FOSAMAX (ALENDRONATE SODIUM)	Unknown
NOTEN (ATENOLOL)	Unknown
23. OTHER RELEVANT HISTORY No Risk Factor Available NONE REPORTED	

IV. MANUFACTURER		Initial Reporter: AUSTRALIA
24a. NAME AND ADDRESS OF MANUFACTURER Eisai Europe Ltd Pharmacovigilance European Knowledge Centre, Mosquito Way Hatfield, Hertfordshire UNITED KINGDOM		
24b. MFR. CONTROL NO. AU-Eisai Inc-E3810- Cont...		
24c. DATE RECEIVED BY MANUFACTURER 21/06/2013	24d. REPORT SOURCE <input type="checkbox"/> STUDY <input type="checkbox"/> LITERATURE <input type="checkbox"/> AUTHORITY <input checked="" type="checkbox"/> HEALTH PROFESSIONAL <input type="checkbox"/> OTHER	
DATE OF THIS REPORT 02/07/2013	25a. REPORT TYPE <input checked="" type="checkbox"/> INITIAL <input type="checkbox"/> FOLLOW UP <input type="checkbox"/> FINAL	

Cont...

= Continuation attached sheet(s)

Continuation Sheet for CIOMS report

Mfr. Control No. :AU-Eisai Inc-E3810- Cont...

Describe Reaction(s)(Include relevant test/lab data) (Cont...)

s22

Suspect Drugs (Cont...)

Product-Reaction level

Seq.No. : 1
Drug : PARIET (RABEPRAZOLE) (RABEPRAZOLE)

Causality

1) CREATININE INCREASE (Serum creatinine increased (10040233), Blood creatinine increased (10005483))
[v.16.0]
Action(s) taken with drug : Drug discontinued
Causality as per reporter (Drug/Vaccine) : Not provided
Causality as per Mfr.(Drug/Vaccine) : Not assessable

Concomitant drugs (Cont...)

Seq.No. : 5
Drug : PARACETAMOL (PARACETAMOL)

24b. MFR. CONTROL NO.

AU-Eisai Inc-E3810-06499-SPO-AU

Company Remarks (Cont...)

s22

Additional information (continuation)

Lab Result :

Test name	Test date	Test result	Normal value	Classification
10040230	/ /2013	138		
	/ /2013	129		
	/ /2013	162		
	/ /2013	102		