tween 60 and 90% of the total dose is metabolised in this way, but the degree of metabolism depends both on the activity of the intestinal flora and the speed of intestinal transit; colonic metabolism is reduced in patients with diarrhoea (for example, in active inflammatory bowel disease).

The small amount of intact sulfasalazine that is absorbed is extensively protein bound and subsequently excreted unchanged in urine. It crosses the placenta and is found in breast milk.

After cleavage of the sulfasalazine molecule about 60 to 80% of available sulfapyridine is absorbed, and undergoes extensive metabolism by acetylation, hydroxylation, and glucuronidation. Peak steady-state concentrations of sulfapyridine are higher in slow acetylators than fast acetylators after similar doses and the former are 2 to 3 times more likely to have adverse effects. Some 60% of the original dose of sulfasalazine is excreted in urine as sulfapyridine and its metabolites. As with sulfasalazine, absorbed sulfapyridine crosses the placenta and is found in breast milk.

The 5-aminosalicylic acid (5-ASA) moiety is much less well absorbed. About one-third of liberated 5-ASA is absorbed and almost all of this is acetylated and excreted in urine. For further details of the pharmacokinetics of 5-aminosalicylic acid see under Mesalazine, p.1746.

◊ Reviews.

1. Klotz U. Clinical pharmacokinetics of sulphasalazine, its metabolites and other prodrugs of 5-aminosalicylic acid. *Clin Pharmacokinet* 1985; **10:** 285–302.

Uses and Administration

Sulfasalazine is a compound of a sulfonamide, sulfapyridine, with 5-aminosalicylic acid (mesalazine). Its activity is generally considered to lie in the 5-aminosalicylic acid moiety, which is released in the colon by bacterial metabolism, although intact sulfasalazine has some anti-inflammatory properties in its own right.

In inflammatory bowel disease (p.1697) it is used alone or as an adjunct to corticosteroids in the treatment of active ulcerative colitis and is effective in maintaining remission. Sulfasalazine may also be effective in the treatment of active Crohn's disease, particularly of the colon, but it does not appear to be of value in maintaining remissions. Sulfasalazine is also used as a disease modifying drug in the treatment of severe or progressive rheumatoid arthritis (below).

In **inflammatory bowel disease** the usual initial adult dose of sulfasalazine is 1 to 2 g orally 4 times daily in the UK. However, doses over 4 g daily are associated with an increased risk of toxicity, and in the USA, therefore, the usual dose is 1 g given 3 or 4 times daily, and an initial dose of 500 mg every 6 to 12 hours may be recommended to lessen gastrointestinal adverse effects. Enteric-coated tablets are also claimed to reduce the incidence of adverse gastrointestinal effects. The overnight interval between doses should not exceed 8 hours. On remission the dose in patients with ulcerative colitis is gradually reduced to 2 g daily and then generally continued indefinitely. For children 2 years of age or older doses should be proportional to body-weight; initially 40 to 60 mg/kg may be given daily in divided doses reduced to 20 to 30 mg/kg daily for the maintenance of remission.

Sulfasalazine is also given rectally, as suppositories, initially at a dose of 1 g at night and in the morning. After three weeks the dosage is gradually reduced according to response. Rectal sulfasalazine can be given as 0.5 to l g night and morning as an adjunct to treatment by mouth. Sulfasalazine may also be given by enema in a dose of 3 g at bedtime. The *BNFC* suggests the following daily dosage may be given in divided doses to children as suppositories according to age: 5 to 8 years old: 1 g; 8 to 12 years old: 1.5 g; 12 to 18 years old: 2 g. Enemas, to be retained for at least 1 hour, may be given at night in doses of 1 to 1.5 g for children aged 2 to 7 years, 1.5 to 2.25 g for children aged 7 to 12 years, and 3 g for children 12 to 18 years.

In adult **rheumatoid arthritis** treatment is usually started with an oral dose of 500 mg daily, as enteric-coated tablets, for the first week; dosage is then increased by 500 mg daily each week to a maximum of 3 g daily given in 2 to 4 divided doses according to tolerance and response. In the USA, sulfasalazine can also be used for polyarticular juvenile rheumatoid arthritis in children aged 6 years and older who have not responded adequately to salicylates or other NSAIDs. A dose of 30 to 50 mg/kg daily is given in two divided doses, to a maximum dose of 2 g daily. To reduce adverse gastrointestinal effects, an enteric-coated tablet is used and the initial dose should be a quarter to a third of the planned maintenance; it is then increased weekly to reach the maintenance dose after one month.

Although sulfasalazine is not licensed for juvenile rheumatoid arthritis in the UK, the *BNFC* suggests that children aged 2 to 18 years are given an initial oral dose of 5 mg/kg twice daily for 1 week. The dose is then increased to 10 mg/kg twice daily for 1 week, then 20 mg/kg twice daily for 1 week, and maintained on a dose of 20 to 25 mg/kg twice daily. For children aged 2 to 12 years the maximum dose suggested is 2 g daily, and for children aged 12 to 18 years 3 g daily.

Psoriasis. In a double-blind placebo-controlled study involving 50 patients with moderate to severe plaque-type psoriasis (p.1583), sulfasalazine 3 to 4 g daily produced a significantly greater clinical improvement than placebo after 4 weeks of treatment with a further improvement at 8 weeks.[1]

See also Psoriatic Arthritis, below.

1. Gupta AK, *et al.* Sulfasalazine improves psoriasis: a double-blind analysis. *Arch Dermatol* 1990; **126:** 487–93.

Pyoderma gangrenosum. Sulfasalazine is licensed in some countries for the treatment of pyoderma gangrenosum (p.1583), a condition that may be associated with inflammatory bowel disease, although published evidence of benefit is scanty.

References.

1. Shenefelt PD. Pyoderma gangrenosum associated with cystic acne and hidradenitis suppurativa controlled by adding minocycline and sulfasalazine to the treatment regimen. *Cutis* 1996; **57:** 315–9.

Rheumatoid arthritis. Sulfasalazine is considered to be a useful disease-modifying antirheumatic drug (DMARD) in the treatment of rheumatoid arthritis (p.11). Studies have found a beneficial clinical effect of sulfasalazine, compared with placebo, on tender and swollen joints, pain, and erythrocyte sedimentation rate.[1,2] Meta-analyses[3,4] of generally short-term comparative studies suggest that sulfasalazine is roughly comparable in efficacy to methotrexate, intramuscular gold (sodium aurothiomalate), and penicillamine. Other reviews[2,5] have also suggested that it may have similar efficacy to hydroxychloroquine and leflunomide. Although there are regional differences in the prescription of DMARDs, sulfasalazine has been widely used for initial therapy, especially of less severe disease.[5] In an open study[6] of 200 patients with rheumatoid arthritis who were randomly allocated to treatment with sulfasalazine or auranofin, 31% of the sulfasalazine recipients were still taking the drug after 5 years compared with 15% of auranofin recipients. Improvement over baseline was still significant at 5 years for those patients receiving sulfasalazine but not in those treated with auranofin. Although one study[7] failed to find convincing evidence that using sulfasalazine with methotrexate was more effective than either drug alone, other studies have shown that combination treatment with sulfasalazine plus methotrexate and hydroxychloroquine was more effective than methotrexate alone or with sulfasalazine or hydroxychloroquine or the combination of sulfasalazine with hydroxychloroquine.[8,9] A review of sulfasalazine use in the management of rheumatoid arthritis concluded that combination therapy may be of benefit in patients with early or advanced rheumatoid arthritis but that there is still a need for studies to determine the efficacy and tolerability of various combinations.[5]

1. Suarez-Almazor ME, *et al.* Sulfasalazine for treating rheumatoid arthritis. Available in The Cochrane Database of Systematic Reviews; Issue 2. Chichester: John Wiley; 1998 (accessed 28/02/06).
2. Weinblatt ME, *et al.* Sulfasalazine treatment for rheumatoid arthritis: a metaanalysis of 15 randomized trials. *J Rheumatol* 1999; **26:** 2123–30.
3. Felson DT, *et al.* The comparative efficacy and toxicity of second-line drugs in rheumatoid arthritis. *Arthritis Rheum* 1990; **33:** 1449–61.
4. Capell HA, *et al.* Second line (disease modifying) treatment in rheumatoid arthritis: which drug for which patient? *Ann Rheum Dis* 1993; **52:** 423–8.
5. Plosker GL, Croom KF. Sulfasalazine: a review of its use in the management of rheumatoid arthritis. *Drugs* 2005; **65:** 1825–49.
6. McEntegart A, *et al.* Sulfasalazine has a better efficacy/toxicity profile than auranofin—evidence from a 5 year prospective, randomized trial. *J Rheumatol* 1996; **23:** 1887–90.
7. Dougados M, *et al.* Combination therapy in early rheumatoid arthritis: a randomised, controlled, double blind 52 week clinical trial of sulphasalazine and methotrexate compared with the single components. *Ann Rheum Dis* 1999; **58:** 220–5.
8. O'Dell JR, *et al.* Treatment of rheumatoid arthritis with methotrexate alone, sulfasalazine and hydroxychloroquine, or a combination of all three medications. *N Engl J Med* 1996; **334:** 1287–91.
9. O'Dell JR, *et al.* Treatment of rheumatoid arthritis with methotrexate and hydroxychloroquine, methotrexate and sulfasalazine, or a combination of the three medications: results of a two-year, randomized, double-blind, placebo-controlled trial. *Arthritis Rheum* 2002; **46:** 1164–70.

Juvenile idiopathic arthritis. Juvenile idiopathic arthritis (p.10) is generally managed similarly to rheumatoid arthritis, but there is limited experience with the use of some antirheumatic drugs in children. Sulfasalazine has produced significant improvement in studies of patients with juvenile chronic arthritis; a literature review found that it was consistently reported to be of benefit.[1] Adverse effects were reported to be similar to those in adults, with the exception of a serum-sickness-like reaction which was mostly seen in systemic onset patients and may be unique to juvenile rheumatoid arthritis.[1]

1. Brooks CD. Sulfasalazine for the management of juvenile rheumatoid arthritis. *J Rheumatol* 2001; **28:** 845–53.

Spondyloarthropathies. ***Ankylosing spondylitis.*** Sulfasalazine has been found to be effective[1] in the treatment of active ankylosing spondylitis (p.13), but there is evidence that it is more useful in the treatment of active disease and peripheral articular manifestations than in the management of chronic long-standing disease.[2-4] The active moiety appears to be sulfapyridine rather than mesalazine.[5] Sulfasalazine was no better than placebo for the treatment of inflammatory back pain due to undifferentiated spondyloarthritis and early ankylosing spondylitis, but it was more effective than placebo in a subgroup of patients with no peripheral arthritis.[6]

1. Ferraz MB, *et al.* Meta-analysis of sulfasalazine in ankylosing spondylitis. *J Rheumatol* 1990; **17:** 1482–6.
2. Clegg DO, *et al.* Comparison of sulfasalazine and placebo in the treatment of ankylosing spondylitis: a Department of Veterans Affairs Cooperative study. *Arthritis Rheum* 1996; **39:** 2004–12.
3. Clegg DO, *et al.* Comparison of sulfasalazine and placebo for the treatment of axial and peripheral articular manifestations of the seronegative spondyloarthropathies: a Department of Veterans Affairs cooperative study. *Arthritis Rheum* 1999; **42:** 2325–9.
4. Chen J, Liu C. Sulfasalazine for ankylosing spondylitis. Available in The Cochrane Database of Systematic Reviews; Issue 2. Chichester: John Wiley; 2005 (accessed 28/02/06).
5. Taggart A, *et al.* Which is the active moiety of sulfasalazine in ankylosing spondylitis? A randomized, controlled study. *Arthritis Rheum* 1996; **39:** 1400–5.
6. Braun J, *et al.* Efficacy of sulfasalazine in patients with inflammatory back pain due to undifferentiated spondyloarthritis and early ankylosing spondylitis: a multicentre randomised controlled trial. *Ann Rheum Dis* 2006; **65:** 1147–53.

Psoriatic arthritis. A systematic review[1] of interventions for psoriatic arthritis (see p.13) concluded that sulfasalazine was one of only two drugs with published evidence of well proven efficacy in psoriatic arthritis (the other being high-dose parenteral methotrexate).

See also under Psoriasis, above.

1. Jones G, *et al.* Interventions for treating psoriatic arthritis. Available in The Cochrane Database of Systematic Reviews, Issue 3. Chichester: John Wiley; 2000 (accessed 29/04/05).

Preparations

BP 2008: Sulfasalazine Tablets;
USP 31: Sulfasalazine Delayed-release Tablets; Sulfasalazine Tablets.

Proprietary Preparations (details are given in Part 3)
Arg.: Azulfidine; Flogostop; ***Austral.:*** Pyralin; Salazopyrin; ***Austria:*** Colo-Pleon; Salazopyrin; ***Belg.:*** Salazopyrine; ***Braz.:*** Azulfin; Salazopirin; ***Canad.:*** Salazopyrin; SAS†; ***Chile:*** Azulfidine; ***Cz.:*** Salazopyrin; ***Denm.:*** Salazopyrin; ***Fin.:*** Salazopyrin; ***Fr.:*** Salazopyrine; ***Ger.:*** Azulfidine; Colo-Pleon; Pleon RA; ***Gr.:*** Salopyrine; ***Hong Kong:*** Salazopyrin; ***Hung.:*** Salazopyrin; ***India:*** Saaz; Salazar; Sazo; ***Indon.:*** Lazafin; Sulcolon; ***Irl.:*** Salazopyrin; ***Israel:*** Salazopyrin; ***Ital.:*** Salazopyrin; ***Jpn:*** Azulfidine; ***Malaysia:*** Salazopyrin; ***Mex.:*** Azulfidina; ***Neth.:*** Salazopyrine; ***Norw.:*** Salazopyrin; ***NZ:*** Salazopyrin; ***Pol.:*** Salazopyrin; ***Port.:*** Salazopirina; ***S.Afr.:*** Salazopyrin; ***Singapore:*** Salazopyrin; ***Spain:*** Salazopyrina; ***Swed.:*** Salazopyrin; ***Switz.:*** Salazopyrin; ***Thai.:*** Salazopyrin; Saridine; ***Turk.:*** Salazopryn; ***UK:*** Salazopyrin; Sulazine; ***USA:*** Azulfidine; ***Venez.:*** Azulfidine.

Sulglicotide *(BAN, rINN)*

Sulglicotida; Sulglicotidum; Sulglycotide.

Сульгликотид

CAS — 54182-59-1.
ATC — A02BX08.
ATC Vet — QA02BX08.

Profile

Sulglicotide is a sulfated glycopeptide with cytoprotective properties extracted from pig duodenum. It is used in the treatment of peptic ulcer disease (p.1702) and other gastrointestinal disorders in a usual oral dose of 200 mg three times daily.

Preparations

Proprietary Preparations (details are given in Part 3)
Ital.: Gliptide; ***Venez.:*** Demucine†.

Tamarind

Tamarindo; West Indian Tamarind.

Индийский Финик; Плоды Тамаринда; Тамаринд

Pharmacopoeias. In *Fr.*

Profile

Tamarind is the fruits of *Tamarindus indica* (Leguminosae) freed from the brittle outer part of the pericarp and preserved with sugar or syrup. It contains tartaric, citric, and malic acid and their salts. Tamarind is used as a laxative with senna.

Preparations

Proprietary Preparations (details are given in Part 3)

Fr.: Delabarre.

Multi-ingredient: ***Arg.:*** Tamarine†; ***Austria:*** Frugelletten; Neda Fruchtewurfel; ***Braz.:*** Fitolax; Florlax; Fontolax; Frutalax†; Laxarine†; Laxtam; Naturetti; Tamanl; Tamarine; Tamarix†; ***Chile:*** Tamarine; ***Fr.:*** Carres Parapsyllium; Laxarine; Tamarine; ***Ital.:*** Ortisan; Tamarine; ***Mex.:*** Naturetti†; ***Spain:*** Dentomicin; Pruina.

Tegaserod Maleate *(BANM, USAN, rINNM)*

HTF-919; Maleato de tegaserod; SDZ-HTF-919; Tégasérod, Maléate de; Tegaserodi Maleas. 1-{[(5-Methoxyindol-3-yl)methylene]amino}-3-pentylguanidine maleate.

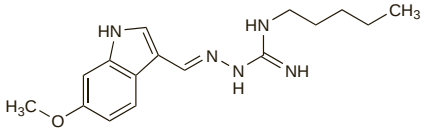
Тегасерода Малеат

$C_{16}H_{23}N_5O,C_4H_4O_4$ = 417.5.

CAS — 145158-71-0 (tegaserod); 189188-57-6 (tegaserod maleate).

ATC — A03AE02.

ATC Vet — QA03AE02.



(tegaserod)

Stability and compatibility. Crushed tablets of tegaserod were found to be stable in water, and apple juice; the latter may mask the taste of the drug. Orange juice, milk, or yogurt were not recommended as vehicles because of incomplete dissolution or uncertainty about stability.[1]

1. Carrier M-N, *et al.* Stability and compatibility of tegaserod from crushed tablets mixed in beverages and foods. *Am J Health-Syst Pharm* 2004; **61:** 1135–42.

Adverse Effects

The most common adverse effects of tegaserod are gastrointestinal disturbances including abdominal pain, diarrhoea, nausea, vomiting, and flatulence. Diarrhoea generally occurs within the first week of treatment and is usually transient but may be severe. Ischaemic colitis has been reported. Headache, dizziness, migraine, insomnia, fatigue, leg or back pain, and arthropathy have also been commonly reported. Cardiovascular adverse effects include hypotension and arrhythmias. Serious cardiovascular ischaemic events such as myocardial infarction, unstable angina pectoris, and stroke have occurred; fatalities have been reported. Other adverse effects include effects on the nervous system such as depression, and other gastrointestinal effects including cholelithiasis and dyspepsia.

◊ References.

1. Hasler WL, Schoenfeld P. Safety profile of tegaserod, a 5-HT receptor agonist, for the treatment of irritable bowel syndrome. *Drug Safety* 2004; **27:** 619–31.
2. Quigley EM, *et al.* Safety and tolerability of tegaserod in patients with chronic constipation: pooled data from two phase III studies. *Clin Gastroenterol Hepatol* 2006; **4:** 605–13.

Effects on the gastrointestinal tract. Severe diarrhoea, leading to hypovolaemia, hypotension, and syncope has been seen occasionally in patients receiving tegaserod. Some patients required hospitalisation for rehydration, and patients should be advised to stop taking the drug and seek medical attention if severe diarrhoea or associated dizziness or lightheadedness develop. In addition, ischaemic colitis has been reported rarely, and the drug should be stopped immediately in patients who develop symptoms such as rectal bleeding, bloody diarrhoea, or new and worsening abdominal pain.[1] The FDA noted that it had received 20 reports of ischaemic colitis in patients taking tegaserod between August 2002 and March 2004; in 3 cases, the effect only developed after several months (7 to 13) of therapy.[2] However, in reply the manufacturer (*Novartis*) suggested that there was no evidence from postmarketing surveillance to support an increased rate of ischaemic colitis over that normally seen in patients with irritable bowel syndrome, who are at increased risk of this diagnosis, nor any obvious pharmacological mechanism for such an adverse effect.[3]

1. Novartis, Canada. Important safety update: diarrhea and ischemic colitis in patients using Zelnorm (tegaserod hydrogen maleate) (issued 28/04/04). Available at: http://www.hc-sc.gc.ca/dhp-mps/alt_formats/hpfb-dgpsa/pdf/medeff/zelnorm_hpc-cps_e.pdf (accessed 07/07/06)
2. Brinker AD, *et al.* Tegaserod and ischemic colitis. *N Engl J Med* 2004; **351:** 1361–3.
3. Joelsson BE, *et al.* Tegaserod and ischemic colitis. *N Engl J Med* 2004; **351:** 1363–4.

Effects on the heart. In an analysis of pooled data from 29 studies, 13 out of 11 614 patients taking tegaserod had serious cardiovascular ischaemic events, compared with 1 out of 7031 patients taking placebo. Events included unstable angina pectoris, stroke, and myocardial infarction, one of which was fatal.[1-3] Most of these patients had at least one cardiovascular risk factor, but for some, no cardiovascular disease or risk had been diagnosed at the onset of treatment with tegaserod.[2] Patients taking tegaserod should seek medical attention if they have severe chest pain, dyspnoea, dizziness, sudden onset of weakness, difficulty walking or talking, or any other symptoms suggestive of myocardial infarction or stroke.[1]

1. FDA Public Health Advisory. Tegaserod maleate (marketed as Zelnorm) (issued 30th March 2007). Available at: http://www.fda.gov/cder/drug/advisory/tegaserod.htm (accessed 31/05/07)
2. Novartis, Canada. Health Canada endorsed important safety information on Zelnorm (tegaserod hydrogen maleate) (issued 30th March 2007). Available at: http://www.hc-sc.gc.ca/dhp-mps/alt_formats/hpfb-dgpsa/pdf/medeff/zelnorm_hpc-cps_2_e.pdf (accessed 31/05/07)
3. Novartis, USA. Urgent: marketing and sales suspension notice for Zelnorm® tablets, 2-mg and 6-mg all lots within expiry (issued 30th March 2007). Available at: http://www.zelnorm.com/Dr_Doctor_Letter.pdf (accessed 31/05/07)

Precautions

Tegaserod is contra-indicated in patients with a history of bowel obstruction, symptomatic gallbladder disease, suspected sphincter of Oddi dysfunction, or abdominal adhesions. Tegaserod should also not be given to patients who have diarrhoea or who frequently experience diarrhoea. It should be stopped in patients with new or sudden worsening of abdominal symptoms, hypotension, or syncope. Tegaserod should not be used in patients with severe renal impairment or moderate to severe hepatic impairment. For the possible cardiovascular risks of tegaserod therapy, see above; in the USA use is restricted, and it is contra-indicated in patients with a history of heart disease or symptoms suggestive of cardiac disorders.

Pharmacokinetics

Tegaserod is rapidly absorbed from the gastrointestinal tract with peak plasma levels occurring after about 1 hour. The absolute bioavailability of an oral dose is 10%; this is reduced by the presence of food. Tegaserod is widely distributed into the tissues and is about 98% bound to plasma proteins. Presystemic acid-catalysed hydrolysis in the stomach, and then oxidation and glucuronidation, produces the main metabolite, which is inactive; direct systemic glucuronidation also occurs. Two-thirds of an oral dose is excreted unchanged in the faeces and one-third excreted in the urine primarily as the main metabolite. The terminal half-life of tegaserod is about 11 hours.

◊ Reviews.

1. Appel-Dingemanse S. Clinical pharmacokinetics of tegaserod, a serotonin 5-HT receptor partial agonist with promotile activity. *Clin Pharmacokinet* 2002; **41:** 1021–42.

Uses and Administration

Tegaserod is a partial agonist at 5-HT_4 receptors and has prokinetic properties. It is used in women for the short-term treatment of irritable bowel syndrome (p.1699), particularly the constipation-predominant form. It has also been used for the treatment of chronic idiopathic constipation (p.1693) in men and women less than 65 years of age.

Tegaserod is given orally as the maleate but doses are expressed in terms of the base; 8.31 mg of tegaserod maleate is equivalent to about 6 mg of tegaserod. It is given in a dose of 6 mg twice daily before food. For irritable bowel syndrome, it is given for 4 to 6 weeks; a further 4 to 6 weeks of treatment may be given if a beneficial response is seen.

In March 2007, marketing of tegaserod was suspended in some countries because of a high incidence of cardiovascular ischaemic events (see Effects on the Heart, above). In the USA, the use of tegaserod was subsequently restricted to women younger than 55 years of age who have either constipation-predominant irritable bowel syndrome or chronic idiopathic constipation, and who meet specific guidelines; patients should have no known or pre-existing cardiac problems.

◊ References.

1. Wagstaff AJ, *et al.* Tegaserod: a review of its use in the management of irritable bowel syndrome with constipation in women. *Drugs* 2003; **63:** 1101–20.
2. Lea R, Whorwell PJ. Benefit-risk assessment of tegaserod in irritable bowel syndrome. *Drug Safety* 2004; **27:** 229–42.
3. Johanson JF, *et al.* Effect of tegaserod in chronic constipation: a randomized, double-blind, controlled trial. *Clin Gastroenterol Hepatol* 2004; **2:** 796–805.
4. Müller-Lissner S, *et al.* Tegaserod is effective in the initial and retreatment of irritable bowel syndrome with constipation. *Aliment Pharmacol Ther* 2005; **21:** 11–20.
5. Kamm MA, *et al.* Tegaserod for the treatment of chronic constipation: a randomized, double-blind, placebo-controlled multinational study. *Am J Gastroenterol* 2005; **100:** 362–72.
6. Tack J, *et al.* A randomised controlled trial assessing the efficacy and safety of repeated tegaserod therapy in women with irritable bowel syndrome with constipation. *Gut* 2005; **54:** 1707–13.
7. Muller-Lissner S, *et al.* Safety, tolerability, and efficacy of tegaserod over 13 months in patients with chronic constipation. *Am J Gastroenterol* 2006; **101:** 2558–69.
8. Baun RF, Levy HB. Tegaserod for treating chronic constipation in elderly patients. *Ann Pharmacother* 2007; **41:** 309–13.
9. Evans BW, *et al.* Tegaserod for the treatment of irritable bowel syndrome and chronic constipation. Available in The Cochrane Database of Systematic Reviews; Issue 4. Chichester: John Wiley; 2007 (accessed 17/03/08).

Preparations

Proprietary Preparations (details are given in Part 3)

Arg.: Altezerod; Coloserod; Procinet; Tegarod; Zelmac; ***Austral.:*** Zelmac†; ***Braz.:*** Zelmac; ***Canad.:*** Zelnorm; ***Chile:*** Colonaid; Distimax; Tegasir; Ther; Zelmac; ***Cz.:*** Zelmac†; ***Hong Kong:*** Zelmac; ***India:*** Tegibs; Tegod; ***Indon.:*** Zelmac; ***Israel:*** Zelmac; ***Malaysia:*** Zelmac†; ***Mex.:*** Zelmac; ***NZ:*** Zelmac; ***Philipp.:*** Zelnorm; ***Rus.:*** Zelmac (Зелмак)†; ***S.Afr.:*** Zelnorm; ***Singapore:*** Zelmac; ***Switz.:*** Zelmac; ***Thai.:*** Zelmac; ***Turk.:*** Zelmac; ***USA:*** Zelnorm†; ***Venez.:*** Zelmac.

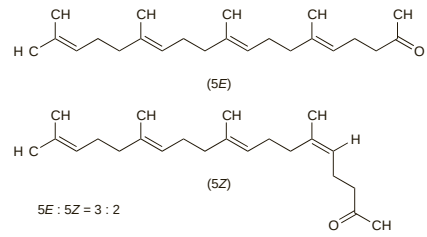
Teprenone *(rINN)*

E-671; Geranylgeranylacetone (5*E*, 9*E*,13*E* isomer); Teprenona; Téprénone; Teprenonum. 6,10,14,18-Tetramethyl-5,9,13,17-nonadecatetraen-2-one, mixture of (5*E*,9*E*,13*E*) and (5*Z*,9*E*,13*E*) isomers.

Тепренон

$C_{23}H_{38}O$ = 330.5.

CAS — 6809-52-5 (teprenone); 3796-63-2 (5E,9E,13E isomer); 3796-64-3 (5Z,9E,13E isomer).



(5*E*)

(5*Z*)

5*E* : 5*Z* = 3 : 2

Profile

Teprenone is a cytoprotective drug that is used in the treatment of gastritis and peptic ulcer disease (p.1702) in a usual oral dose of 50 mg three times daily.

Preparations

Proprietary Preparations (details are given in Part 3)

Indon.: Purubex; ***Jpn:*** Selbex; ***Philipp.:*** Selbex; ***Thai.:*** Selbex.

Tiemonium Iodide *(BAN, rINN)*

Ioduro de tiemonio; TE-114; Tiemonii Iodidum; Tiémonium, Iodure de. 4-[3-Hydroxy-3-phenyl-3-(2-thienyl)propyl]-4-methylmorpholinium iodide.

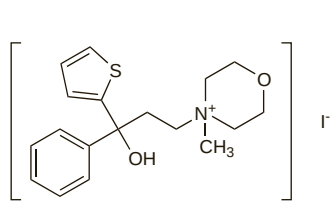
Тиемония Йодид

$C_{18}H_{24}INO_2S$ = 445.4.

CAS — 6252-92-2 (tiemonium); 144-12-7 (tiemonium iodide).

ATC — A03AB17.

ATC Vet — QA03AB17.



Tiemonium Metilsulfate

Tiemonio, metilsulfato de; Tiemonium Methylsulphate. 4-[3-Hydroxy-3-phenyl-3-(2-thienyl)propyl]-4-methyl-morpholinium methylsulphate.

$C_{19}H_{27}NO_6S_2$ = 429.6.

CAS — 6504-57-0.