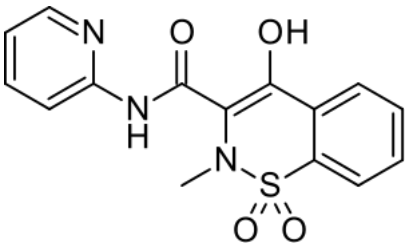
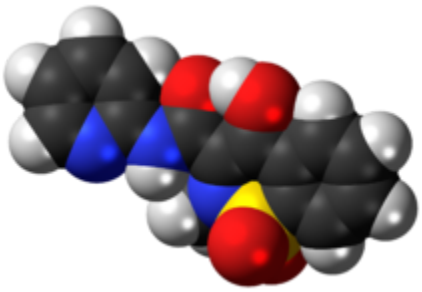
Piroxicam

Piroxicam is a nonsteroidal anti-inflammatory drug (NSAID) of the oxicam class used to relieve the symptoms of painful inflammatory conditions like arthritis.[2][3] Piroxicam works by preventing the production of endogenous prostaglandins which are involved in the mediation of pain, stiffness, tenderness and swelling.[2] The medicine is available as capsules, tablets and (not in all

countries) as a prescription-free gel 0.5%.[4] It is also available in a betadex formulation, which allows a more rapid absorption of piroxicam from the digestive tract.[2] Piroxicam is one of the few NSAIDs that can be given parenteral routes.

Piroxicam





Clinical data

Pronunciation	/paɪˈrɒksɪˌkæm/
Trade names	Feldene, others[1]
Other names	Piroksikam, piroxikam
AHFS/Drugs.com	Monograph
MedlinePlus	a684045
Pregnancy category	AU: C

Pharmacokinetic data

Protein binding	99%[2]
Metabolism	Liver-mediated hydroxylation and glucuronidation[2]
Elimination half-life	50 hours[2]
Excretion	Urine, faeces

Identifiers

IUPAC name	
4-Hydroxy-2-methyl-*N*-(2-pyridinyl)-2*H*-1,2-benzothiazine-3-carboxamide 1,1-dioxide	
CAS Number	36322-90-4 ✓
PubChem CID	54676228
IUPHAR/BPS	7273
DrugBank	DB00554 ✓
ChemSpider	10442653 ✓

UNII	13T4O6VMAM
KEGG	D00127 ✓
ChEBI	CHEBI:8249 ✓
ChEMBL	ChEMBL527 ✓
CompTox Dashboard (EPA)	DTXSID5021170
ECHA InfoCard	100.048.144

Chemical and physical data

Formula	$C_{15}H_{13}N_3O_4S$
Molar mass	331.35 g·mol^{-1}
3D model (JSmol)	Interactive image

SMILES

OC=2c1ccccc1S(=O)(=O)N(C)C=2C(=O)Nc3ccccn3

InChI

InChI=1S/C15H13N3O4S/c1-18-13(15(20)17-12-8-4-5-9-16-12)14(19)10-6-2-3-7-11(10)23(18,21)22/h2-9,19H,1H3,(H,16,17,20) ✓
Key:QYSPLQLAKJAUJT-UHFFFAOYSA-N ✓

(verify)

It was patented in 1968 by Pfizer and approved for medical use in 1979.[5] It became generic in 1992,[6] and is marketed worldwide under many brandnames.[1]

Medical uses

It is used in the treatment of rheumatoid and osteoarthritis, primary dysmenorrhoea, postoperative pain; and act as an analgesic, especially where there is an inflammatory component.[2] The European Medicines Agency issued a review of its use in 2007 and recommended that its use be limited to

the treatment of chronic inflammatory conditions, as it is only in these circumstances that its risk-benefit ratio proves to be favourable.[4][7]

Adverse effects

As with other NSAIDs the principal side effects include: digestive complaints like nausea, discomfort, diarrhoea and bleeds or ulceration of the stomach, as well as headache, dizziness, nervousness, depression, drowsiness, insomnia, vertigo, hearing disturbances (such as tinnitus), high blood pressure, oedema, light sensitivity, skin reactions (including, albeit

rarely, Stevens–Johnson syndrome and toxic epidermal necrolysis) and rarely, kidney failure, pancreatitis, liver damage, visual disturbances, pulmonary eosinophilia and alveolitis.[4] Compared to other NSAIDs it is more prone to causing gastrointestinal disturbances and serious skin reactions.[4]

Mechanism of action

Piroxicam is an NSAID and, as such, is a non-selective COX inhibitor possessing both analgesic and antipyretic properties.[4]

Chemical properties

Piroxicam exists as alkenol tautomer in organic solvents and as zwitterionic form in water.[8]

History

The project that produced piroxicam began in 1962 at Pfizer; the first clinical trial results were reported in 1977, and the product launched in 1980 under the brand name "Feldene".[6][9] Major patents expired in 1992[6] and the drug is marketed worldwide under many brandnames.[1]

See also