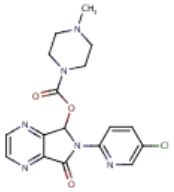
targets (5) enzymes (5)
Show Drugs with Similar Structures for All drugs

Identification

Name	**Zopiclone**
Accession Number	**DB01198** (APRD00356)
Type	small molecule
Groups	approved
Description	Zopiclone is a novel hypnotic agent used in the treatment of insomnia. Its mechanism of action is based on modulating benzodiazepine receptors. In addition to zopiclone's benzodiazepine pharmacological properties it also has some barbiturate like properties.

Structure	 Download: MOL | SDF | SMILES | InChI Display: 2D Structure | 3D Structure
Synonyms	(+-)-zopiclone Zopiclona [INN-Spanish] Zopiclone [Ban:Inn:Jan] Zopiclonum [INN-Latin]
Salts	Not Available

Brand names	Name	Company
	Amoban	
	Amovane	
	Imovance	
	Imovane	
	Novo-zopiclone	
	Nu-Zopiclone	
	Ran-zopiclone	
	Rhovane	
	Sopivan	
	Ximovan	

1 to 10 of 11 rows 10

Brand mixtures	Not Available
Categories	• Hypnotics and Sedatives
CAS number	43200-80-2
Weight	Average: 388.808 Monoisotopic: 388.105066147
Chemical Formula	$C_{17}H_{17}ClN_6O_3$
InChI Key	InChIKey=GBBSUAFBMRNDJC-UHFFFAOYSA-N
InChI	InChI=1S/C17H17ClN6O3/c1-22-6-8-23(9-7-22)17(26)27-16-14-13(19-4-5-20-14)15(25)24(16)12-3-2-11(18)10-21-12/h2-5,10,16H,6-9H2,1H3 Plain Text
IUPAC Name	6-(5-chloropyridin-2-yl)-7-oxo-5H,6H,7H-pyrrolo[3,4-b]pyrazin-5-yl 4-methylpiperazine-1-carboxylate
SMILES	CN1CCN(CC1)C(=O)OC1N(C(=O)C2=NC=CN=C12)C1=NC=C(Cl)C=C1 Plain Text
Mass Spec	Not Available

Taxonomy

Kingdom	Organic
Classes	• Lactams • Cyclopyrrolones
Substructures	• Carbamates and Derivatives • Amino Ketones • Pyridines and Derivatives • Piperazines • Ethers • Aliphatic and Aryl Amines • Aryl Halides • Aminopyridines and Derivatives • Pyrazines • Heterocyclic compounds • Aromatic compounds • Carboxamides and Derivatives • Lactams • Imines • Cyclopyrrolones

- Pyrrolines

Pharmacology

Indication	For the short-term treatment of insomnia.
Pharmacodynamics	Zopiclone is a nonbenzodiazepine hypnotic from the pyrazolopyrimidine class and is indicated for the short-term treatment of insomnia. While Zopiclone is a hypnotic agent with a chemical structure unrelated to benzodiazepines, barbiturates, or other drugs with known hypnotic properties, it interacts with the gamma-aminobutyric acid-benzodiazepine ($GABA_BZ$) receptor complex. Subunit modulation of the $GABA_BZ$ receptor chloride channel macromolecular complex is hypothesized to be responsible for some of the pharmacological properties of benzodiazepines, which include sedative, anxiolytic, muscle relaxant, and anticonvulsive effects in animal models. Zopiclone binds selectively to the brain alpha subunit of the GABA A omega-1 receptor.
Mechanism of action	Zopiclone exerts its action by binding on the benzodiazepine receptor complex and modulation of the $GABA_BZ$ receptor chloride channel macromolecular complex. Both zopiclone and benzodiazepines act indiscriminately at the benzodiazepine binding site on α1, α2, α3 and α5 GABAA containing receptors as full agonists causing an enhancement of the inhibitory actions of GABA to produce the therapeutic (hypnotic and anxiolytic) and adverse effects of zopiclone.
Absorption	Rapidly absorbed following oral administration.
Volume of distribution	Not Available
Protein binding	Approximately 45%
Metabolism	Extensively metabolized in the liver via decarboxylation (major pathway), demethylation, and side chain oxidation. Metabolites include an N-oxide derivative (weakly active; approximately 12% of a dose) and an N-desmethyl metabolite (inactive; approximately 16%). Approximately 50% of a dose is converted to other inactive metabolites via decarboxylation. Hepatic microsomal enzymes are apparently not involved in zopiclone clearance.

Important The metabolism module of DrugBank is currently in **beta**. Questions or suggestions? Please contact us.

Substrate	Enzymes	Product	
Zopiclone	• Cytochrome P450 2C9	Zopiclone N-oxide	Details
Zopiclone	• Cytochrome P450 2C9	N-Desmethylzopiclone	Details
Zopiclone	• Prostaglandin G/H synthase 1	CO2	Details
Zopiclone	• Cytochrome P450 2C8 • Cytochrome P450 3A4	zopiclone-N-oxide	Details
Zopiclone	• Cytochrome P450 2C8 • Cytochrome P450 3A4	N-desmethylzopiclone	Details

Route of elimination	Not Available
Half life	Elimination half life is approximately 5 hours (range 3.8 to 6.5 hours) and is prolonged to 11.9 hours in patients with hepatic insufficiency.
Clearance	Not Available
Toxicity	Rare individual instances of fatal outcomes following overdose with racemic zopiclone have been reported in European postmarketing reports, most often associated with overdose with other CNS-depressant agent. Signs and symptoms of overdose effects of CNS depressants can be expected to present as exaggerations of the pharmacological effects noted in preclinical testing.
Affected organisms	• Humans and other mammals
Pathways	Not Available

Pharmacoeconomics

Manufacturers	Not Available
Packagers	• Centaur Pharmaceuticals Pvt Ltd.

Dosage forms

Form	Route	Strength
Tablet	Oral	5 mg
Tablet	Oral	7.5 mg

Unit description	Cost	Unit
Imovane 7.5 mg Tablet	1.41	USD tablet
Imovane 5 mg Tablet	1.11	USD tablet
Apo-Zopiclone 7.5 mg Tablet	0.49	USD tablet