

NEW DRUG: Vilazodone (Viibryd®)

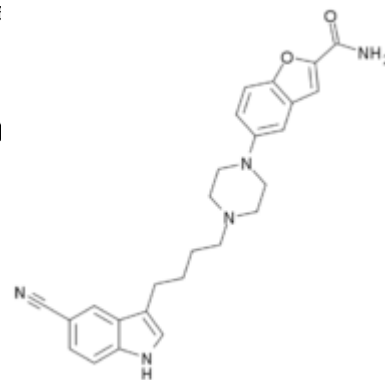
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Vilazodone (Viibryd®) is a new antidepressant approved by the FDA in January 2011 for use in the United States to treat major depressive disorder. The drug is classified as a Selective Serotonin Reuptake Inhibitor (SSRI) and is manufactured by Forest Laboratories, Inc. in 10, 20, and 40 mg tablets. In contrast to other SSRIs, Vilazodone did not cause significant weight gain or decreased sexual desire or function as with many other antidepressants.

General Information

IUPAC Name: 5-(4-[4-(5-cyano-1H-indol-3-yl)butyl]piperazin-1-yl)benzofuran
Chemical Formula: C₂₆H₂₇N₅O₂
Molecular Weight: 441.54 g/mol
Available: Vilazodone HCl analytical powder from Forrest Research Institute upon request
CAS Number: 163521-12-8, 163521-08-2 (HCl)
Physical State: Solid, White to pale cream
Solubility: Ethanol 31%, Methanol >100%
Stability: Not sensitive to light, stable at up to 65°C for 4 weeks



Pharmacology

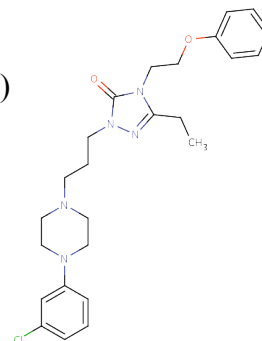
Half-Life ~25 hours
Absorption 4-5 hours
Cmax 156 ng/ml steady state (3 days) after daily doses of 40 mg
V_d Large, specific number not known
Bioavailability 72%
Protein Bound ~96-99%
Metabolism Extensively in the liver by P450 3A4
Elimination 1% of the dose was recovered in the urine and 2% in feces
Drug Interactions Serious to fatal if co-administered with MAO.



Toxicology

Extraction: Unknown
Detection: LC/MS/MS: NMS Labs³: Calibration range 0.10-15 ng/ml and since April 2010, 15 cases have been analyzed with a measured concentration range of 0.71-5.6 ng/ml serum/plasma and urine.
(n=9) in

Although Vilazodone sounds similar to Nefazodone (C₂₅H₃₂ClN₅O₂) with a comparable MW 470 g/mol, it appears to not chromatograph on either the GC/NPD & GC/MS.



References

Previously published in Society of Forensic Toxicologists ToxTalk. Vol. 36, Issue 1, March 2012, pp 16.

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1. Viibryd® (Vilazodone) Package Insert, March 2011.
2. Cruz, "Vilazodone HCl (Viibryd)", Pharmacy and Therapeutics, Vol 37, No 1, January 2012
3. Personal communication with Laura Labay, NMS Labs.
4. Baselt, "Disposition of Toxic Drugs and Chemicals in Man" 2011, 9th edition, p 1791.