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VIEWPOINT

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ACS Chemical Neuroscience Molecule Spotlight on Viibryd (Vilazodone)

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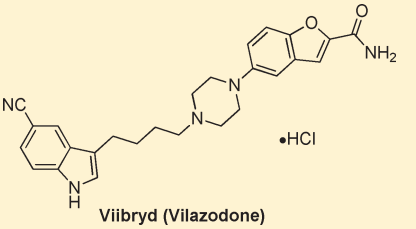
ABSTRACT: On January 21, 2011, the U.S. Food and Drug Administration approved Viibryd, a new selective serotonin reuptake inhibitor (SSRI), to treat major depressive disorder in adults developed by Clinical Data, Inc.

KEYWORDS: Depression, major depressive disorder, antidepressant, SSRI



Viibryd (Vilazodone)

Viibryd (vilazodone hydrochloride) is an antidepressant recently approved for the treatment of major depressive disorder in adults. The class of compounds known as SSRIs (selective serotonin reuptake inhibitors) has been the most widely prescribed class of drugs for the treatment of depression over the past 25 years. The popularity of the SSRIs is due to several factors, including clinical efficacy, fewer side effects, and an increased safety margin as compared to other clinically available antidepressants. These compounds are critically needed due to the fact that their clinical use is in the treatment of major depressive disorder (MDD), a common mental disorder that affects nearly 4% of the worldwide adult population. MDD is a major medical and social issue, since the disorder not only affects a person's mood but also has major ramifications for the person's family, work, and social lives, as well as general health considerations. Although the SSRI family of compounds has made major advancements into the treatment of MDD, these compounds still have side effects that dampen their effectiveness due to noncompliance or stoppage of treatment. These side effects include sexual dysfunction and weight gain as two of the most observed events.[1] Thus, any new treatment that can improve upon these side effects would be beneficial to patients with MDD.

Viibryd (vilazodone hydrochloride) is a combined serotonin reuptake inhibitor (5-HT, IC_{50} = 0.2 nM) and 5-HT_{1A} partial agonist (IC_{50} = 0.5 nM), which is different from other prototypical SSRIs (e.g., fluoxetine).[2,3] Vilazodone exhibits an ~300-fold selectivity profile over the norepinephrine reuptake and is inactive (or shows negligible activity) against the other 5-HT receptors (5-HT_{1D}, 5-HT_{2A}, and 5-HT_{2C}).[2] In vivo evaluation of vilazodone shows it inhibited ultrasonic vocalization in rats without increasing the core body temperature, indicating activation of presynaptic 5-HT_{1A} receptors.[3] In these studies, the compound was dosed orally; however, the authors note that there was a delayed onset of action due to slow absorption after oral administration. Vilazodone also exhibited antidepressant-like effects in the forced swim test, in both rats and mice.[2]

The clinical efficacy of Viibryd (vilazodone) was established in two 8 week, multicenter, randomized, double-blind, placebo-controlled studies in adults with MDD.[4] These studies were performed in patients aged 18−65 years who met the MDD criteria (DSM-IV) and a baseline 17 item Hamilton Rating Scale for Depression (HAM-D-17), and in each patient that received Viibryd they were titrated over 2 weeks to a dose of 40 mg, once daily.[4] At the end of the 8 week trial, patients receiving drug had mean baseline changes in the Montgomery−Asberg Depression Rating Scale (MADRS) and HAM-D-17 scores that were significantly higher than those of the placebo group.[4] In addition, significant improvements in the scores were noted after 1 week with patients in the drug-treatment group. The most common adverse events noted in the clinical trial were diarrhea, nausea, and somnolence, and all were of a mild or moderate intensity.[4] These studies also showed that Viibryd exhibits a lower incidence of weight gain and sexual dysfunction compared to other treatment options.

Viibryd is now available via Forest Laboratories, which acquired Clinical Data Inc. soon after the U.S. Food and Drug Administration approved Viibryd.

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