ACS Chemical Neuroscience Molecule Spotlight on Saphris

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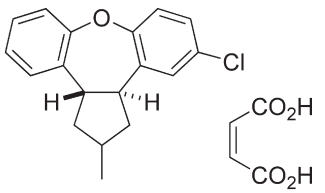
Abstract



Saphris® (Asenapine)

On August 14th, 2009, for the first time, the FDA has approved a psychotropic medication for two indications simultaneously. Saphris (asenapine) is a multitarget atypical antipsychotic medication approved to treat adults with schizophrenia and bipolar I disorder.

Saphris (asenapine) is a newly approved atypical antipsychotic from Schering-Plough (now Merck). Saphris (asenapine) was approved to treat adults with schizophrenia and bipolar I disorder on August 14, 2009, the first time a psychotropic medication was approved for two indications simultaneously (*1*). Schizophrenia is a chronic, severe, and disabling brain disorder with symptoms ranging from delusions and hallucinations to having false beliefs and paranoid thoughts. The exact cause of schizophrenia is unknown; however, evidence suggests that there exists a significant heritable component, with onset usually being significantly influenced by environmental factors or stresses (*2*). Schizophrenia is a very costly disorder with U.S. 2002 cost estimated at $62.7 billion and a prevalence rate of approximately 1.1%, with an equal distribution between men and women (*3*). Bipolar disorder (or manic−depressive disorder) is also a chronic, severe, and recurrent psychiatric disorder that is defined by one or more episodes of abnormally elevated moods (manias) followed by periods of depression. Bipolar disorder affects approximately 2.6% of American adults with the average age of onset being 25 years (*4*).

Saphris (asenapine) is a newly approved multitarget atypical antipsychotic from Merck (formerly Schering-Plough) that was approved in August 2009. The drug was originally discovered at Organon International, which merged with Schering-Plough in November 2007 and with Merck in 2009. Asenapine has high affinity for a number of receptors, including the 5-HT subtypes (5-HT_{2A}, 5-HT_{2B}, 5-HT_{2C}, 5-HT_6, and 5-HT_7) and adrenoceptor subtypes (α_{1A}, α_{2A}, α_{2B}, and α_{2C}), as well as dopamine D_3 and D_4 receptors, serotonin, norepinephrine, and histamine receptors (*5*). Asenapine acts as an antagonist at all receptors. Asenapine is approved as a fast-dissolving tablet for sublingual administration due to low bioavailability (<2%) caused by extensive first-pass metabolism. Sublingual formulation was developed to eliminate this first-pass metabolism and results in significantly higher bioavailability (35%) (*6*).

The efficacy of Saphris was demonstrated in two of three short-term, placebo-controlled and active-drug controlled clinical trials, where the drug was shown to have superior efficacy compared with placebo in reducing the symptoms of schizophrenia (*1*). For bipolar disorder, Saphris was shown to be superior to placebo in two short-term, placebo-controlled and active-drug controlled clinical trials (*1*). Side effects were greatly reduced compared with other known medications, and the most common events were akathisia (restlessness), dizziness, somnolence, and weight gain. With the approval of Saphris, clinicians have another tool in their arsenal for treating these lifelong diseases.

References

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