Fluoxetine Hydrochloride

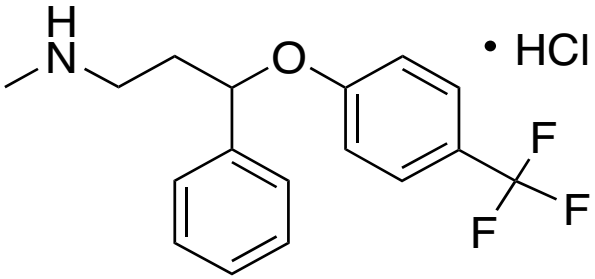
Selective serotonin reuptake inhibitors (SSRIs) increase the level of circulating serotonin in the brain by targeting serotonin transporters and preventing pre-synaptic reuptake. Serotonin is an important neurotransmitter involved in mood regulation, appetite, memory processing, reward, and sleep.

Fluoxetine Hydrochloride (F4780) is an atypical SSRI that also exhibits moderate affinity for norepinephrine transporters, serotonin receptors, and sigma receptors, allowing it to modulate extracellular norepinephrine and dopamine levels as well[1].

Many antidepressants also exhibit analgesic or antinociceptive properties and show activity in models of migraine and neuropathic pain. Fluoxetine-induced antinociception is dependent on modulation of both serotonergic and opioid signaling[2].

Another study analyzed the influence of fluoxetine on kinases involved in intracellular signaling after stimulation with mitogens. Fluoxetine modulates PKC and PKA signaling pathways through calcium mobilization, altering T-cell proliferation[3].

Some antidepressants also exhibit anticancer activity, an added benefit given the co-morbidity of cancers with mood disorders. Fluoxetine itself decreases cell viability and induces apoptosis in hepatocellular carcinoma cells through modulation of MAPK signaling[4].



F 4780 Fluoxetine Hydrochloride

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