SB 205384
Product Number S7936
Storage Temperature: Room Temperature

CAS#: 160296-13-9
Synonym: 4-Amino-7-hydroxy-2-methyl-5,6,7,8-tetrahydrobenzo[b]thieno[2,3-b]pyridine-3-carboxylic acid, but-2-ynyl ester

Product Description
Molecular Formula: C_{17}H_{18}O_{3}N_{2}S
Molecular Weight: 330.4 (anhyd.)

The major mediator of inhibitory synaptic transmission in the mammalian central nervous system is γ-aminobutyric acid (GABA) acting at the GABA\textsubscript{A} receptor. The GABA\textsubscript{A} receptor complex contains five subunits that form a chloride ion channel. Several subunit genes and their isoforms have been identified. Channel diversity results from the association of the various subunit isoforms with each other resulting in hundreds of possible subunit combinations.

Ligands that function as GABA\textsubscript{A} receptor modulators have important functional properties. Agents that block GABA\textsubscript{A}-induced chloride currents induce convulsions. Agents that increase chloride current flow have sedative, anesthetic, hypnotic, anxiolytic and anti-convulsant actions resulting from interactions either at the GABA recognition site or at one of several distinct allosteric binding sites on the GABA\textsubscript{A} channel complex. Benzodiazepines increase the affinity of the receptor for GABA, thus increasing the rate of channel opening. Barbituates increase the mean open time of the channel. The effects of steroid modulators are similar to those of the benzodiazepines except that they interact at a different site on the channel-forming subunits. All three types of modulators have the same physiological effect - increased GABA\textsubscript{A}-induced chloride currents - despite having distinct modes of action.

In an attempt to identify novel GABA\textsubscript{A} receptor modulators, SB 205384 was evaluated in electrophysiological studies and compared to members of the three classes of modulators mentioned above for its ability to increase GABA\textsubscript{A} channel currents. SB 205384 was found to increase the channel current through a novel mechanism of action.

Preparation Instructions
Soluble in DMSO (18 mg/ml); insoluble in water.

Storage/Stability
Store tightly sealed at room temperature.

References