

## GABAA receptor modulator-9

## Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

## Biological Description

|               |  |
|---------------|--|
| Description   | GABAA receptor modulator-9 is a positive allosteric modulator of the GABAA receptor, specifically targeting the $\alpha 1\beta 2\gamma 2$ subtype and capable of crossing the blood-brain barrier. It exhibits excellent activity at $\alpha 1\beta 2\gamma 2$ (EC50: 0.9 $\mu\text{M}$ in oocytes and 0.2 $\mu\text{M}$ in CHO cells) and also shows activity at $\alpha 1\beta 2$ , $\alpha 3\beta 2\gamma 2$ , and $\alpha 1\beta 3\gamma 2$ (with EC50 values of 1.3, 3.4, and 1.1 $\mu\text{M}$ , respectively). GABAA receptor modulator-9 significantly inhibits seizure progression and reduces mortality in mice. It is applicable in studies of status epilepticus (SE). |
| Targets(IC50) | GABA Receptor  |
| In vitro      | GABAA receptor modulator-9 (Compound (S)-9d) shows the greatest selectivity for the $\alpha 1$ subunit, likely without displaying selectivity for the $\beta$ subunit, and the $\gamma 2$ subunit does not affect its allosteric activity on GABAA receptors.  |
| In vivo       | The compound GABAA receptor modulator-9 ((S)-9d), when administered intraperitoneally at doses of 5-30 mg/kg (single dose), prevents 90% of mice from experiencing stage V seizures and significantly delays the onset of status epilepticus induced by Pilocarpine, as well as acute convulsions triggered by Pentylentetrazol.   |

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