# E1R

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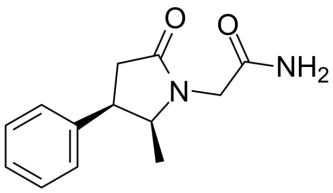
| **Cat. No.:** | HY-116463 |
| **CAS No.:** | 1301211-78-8 |
| **Molecular Formula:** | $C_{13}H_{16}N_2O_2$ |
| **Molecular Weight:** | 232.28 |
| **Target:** | Sigma Receptor |
| **Pathway:** | GPCR/G Protein; Neuronal Signaling |
| **Storage:** | Powder -20°C 3 years<br>4°C 2 years<br>In solvent -80°C 6 months<br>-20°C 1 month |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 60 mg/mL (258.31 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 4.3051 mL | 21.5257 mL | 43.0515 mL |
| | 5 mM | 0.8610 mL | 4.3051 mL | 8.6103 mL |
| | 10 mM | 0.4305 mL | 2.1526 mL | 4.3051 mL |

Please refer to the solubility information to select the appropriate solvent.

## BIOLOGICAL ACTIVITY

**Description**

E1R is a positive allosteric modulator of sigma-1 receptors (Sig1R PAM) with cognition-enhancing activity[1].

**In Vitro**

The only target for E1R (inhibition or enhancement of radioligand binding exceeding 20%) is the sigma receptor. 10 μM E1R does not displace the radioligand, but instead increases the specific binding of a non-selective radioligand ([$^3$H]1,3-di(2-tolyl)guanidine) for the sigma receptor by 38% in Jurkat cells[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**In Vivo**

E1R demonstrates efficacy against scopolamine-induced cholinergic dysfunction in mice. Treatment with E1R (0.1-10 mg/kg; administered i.p. 60 min before the training session) significantly improves cognitive function in a dose-related manner in mice[1].

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| Animal Model: | Male ICR and Balb/c mice weighed 23-25 g[1] |

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| Dosage: | 0.1, 1 and 10 mg/kg |
| Administration: | Administered i.p. 60 min before the training session |
| Result: | Treatment at doses of 1 and 10 mg/kg increased retention latency by 194 and 211%, respectively, compared with the control group. |

## REFERENCES

[1]. Zvejniece L, et al. The cognition-enhancing activity of E1R, a novel positive allosteric modulator of sigma-1 receptors. Br J Pharmacol. 2014 Feb;171(3):761-71.



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