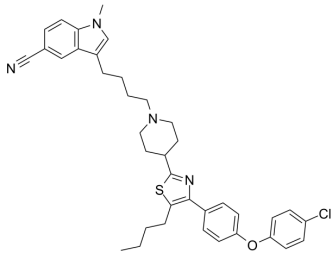
RAGE/SERT-IN-1

Cat. No.:	HY-146619
CAS No.:	2766739-35-7
Molecular Formula:	$C_{38}H_{41}ClN_4OS$
Molecular Weight:	637.28
Target:	Amyloid-β; Serotonin Transporter
Pathway:	Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

RAGE/SERT-IN-1 is a potent and orally active advanced glycation end products (RAGE) and serotonin transporter (SERT) inhibitor with IC_{50}s of 8.26 μM and 31.09 nM, respectively. RAGE/SERT-IN-1 exhibits significant neuroprotective effect against $Aβ_{25-35}$-induced neuronal damage and alleviates depressive behavior of mice. RAGE/SERT-IN-1 can be used for researching the comorbidity of Alzheimer's disease and depression[1].

IC_{50} & Target

IC_{50}: 8.26 μM (RAGE), 31.09 nM (SERT)[1]

In Vitro

RAGE/SERT-IN-1 (compound 12) (1-20 μM; 24 hours) does not significantly affect cell viability of SH-SY5Y[1].

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

Cell Cytotoxicity Assay

Cell Line:	SH-SY5Y[1]
Concentration:	1, 5, 10 and 20 μM
Incubation Time:	24 hours
Result:	Did not affect cell viability at concentrations of 1, 5, and 10 μM, and only a slight decrease in cell viability at the concentration of 20 μM was observed with the viability still above 80%.

In Vivo

RAGE/SERT-IN-1 (0-10 μM; 60 min) has good liver microsomal stability and does not apparently inhibit main CYP enzymes[1].

RAGE/SERT-IN-1 (100 and 200mg/kg; IP; single dosage) does not cause mice death and not significant change in the ratio of organ-to-body weight at 100 mg/kg[1].

RAGE/SERT-IN-1 (60 mg/kg; PO; single dosage) significantly reduces the immobility time in tail suspension test[1].

RAGE/SERT-IN-1 (60 mg/kg for PO, 10 mg/kg for IV; single dosage) exhibits acceptable pharmacokinetic properties in mice[1].

Pharmacokinetic Parameters of RAGE/SERT-IN-1 in male ICR mice[1].

	PO (60 mg/kg)	IV (10 mg/kg)
$T_{1/2}$ (h)	5.55	3.46

C_{max} (ng/mL)	4935	51745
$AUC_{0-\infty}$ (ng/mL·h)	24684	23653
CL (mL/min/kg)		7.09
V_{SS} (L/kg)		1037
F (%)	17.1	

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

Animal Model:	Male ICR mice (24-26 g)[1]
Dosage:	100mg/kg and 200mg/kg
Administration:	IP; single (observed for 2 weeks)
Result:	All mice were survived and no significant changed in the ratio of organ-to-body weight at a dose of 100 mg/kg.

Animal Model:	Male ICR mice[1]
Dosage:	60 mg/kg
Administration:	PO; single dosage
Result:	Significantly reduced the immobility time in tail suspension test.

Animal Model:	Male ICR mice[1]
Dosage:	60 mg/kg for PO, 10 mg/kg for IV
Administration:	PO and IV; single dosage
Result:	Exhibited acceptable pharmacokinetic properties in mice.

REFERENCES

[1]. Zhang C, Wang L, Xu Y, et al. Discovery of novel dual RAGE/SERT inhibitors for the potential treatment of the comorbidity of Alzheimer's disease and depression. Eur J Med Chem. 2022;236:114347.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA