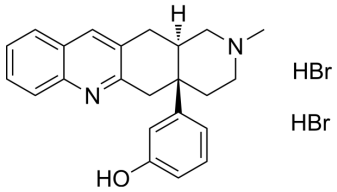
TAN-67 dihydrobromide

Cat. No.:	HY-101317
CAS No.:	1217628-73-3
Molecular Formula:	$C_{23}H_{26}Br_2N_2O$
Molecular Weight:	506.27
Target:	Opioid Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



BIOLOGICAL ACTIVITY

Description	TAN-67 (SB-205607) dihydrobromide is a potent and selective nonpeptidic δ-opioid receptor agonist with a K_i value of 0.647 nM. TAN-67 dihydrobromide has neuroprotective effect. TAN-67 dihydrobromide can be used in research of ischemic stroke [1][2].
IC_{50} & Target	δ Opioid Receptor/DOR 0.647 nM (Ki)
In Vitro	TAN-67 (SB-205607) dihydrobromide has high potency (EC_{50}=1.72 nM) for the inhibition of forskolin-stimulated cAMP accumulation at human delta-opioid receptors expressed by intact Chinese hamster ovary cells but low potency (EC_{50}=1520 nM) at human mu-opioid receptors expressed by intact B82 mouse fibroblast cells[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	TAN-67 (SB-205607; 1.5-4.5 mg/kg; i.v.; once) dihydrobromide reduces infarct volume in I/R-caused brain injury[2]. TAN-67 (3 mg/kg; i.v.; once) dihydrobromide improves survival and neurobehavioral performance after I/R[2]. TAN-67 (3 mg/kg; i.v.; once; adult C57BL/6J male mice) dihydrobromide increases both total APP and mature APP (APPm) levels and APP processing at an early time point (6 h)[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Adult C57BL/6J male mice with I/R-caused brain injury[2]
Dosage:	1.5, 3.0, and 4.5 mg/kg
Administration:	Intravenous injection; once
Result:	Reduced infarct volume in a dose-dependent manner.

Animal Model:	Adult C57BL/6J male mice with I/R-caused brain injury[2]
Dosage:	3.0 mg/kg
Administration:	Intravenous injection; once
Result:	Had rapidly functional recovery than the vehicle-treated mice.

	Reduced neuronal cell death.
Animal Model:	Adult C57BL/6J male mice with transient middle cerebra artery occlusion (MCAO) ischemic stroke model[2]
Dosage:	3.0 mg/kg
Administration:	Intravenous injection; once
Result:	Increased both total APP and mature APP (APPm) levels. Reduced β-secretase activity.

REFERENCES

[1]. Knapp RJ, et, al. Properties of TAN-67, a nonpeptidic delta-opioid receptor agonist, at cloned human delta- and mu-opioid receptors. Eur J Pharmacol. 1995 Oct 15;291(2):129-34.

[2]. Min JW, et, al. The non-peptidic δ-opioid receptor agonist Tan-67 mediates neuroprotection post-ischemically and is associated with altered amyloid precursor protein expression, maturation and processing in mice. J Neurochem. 2018 Feb;144(3):336-347.

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