

Product Data Sheet

Product Name: RB 101 hydrochloride

Cat. No.: GC81895

Chemical Properties

Cas. No.

Formula $C_{31}H_{39}ClN_2O_3S_3$ M.Wt 619.3

Solubility Ethanol: 50 mg/mL (80.74 mM; Need ultrasonic) Storage Store at -20°C, away from moisture

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

RB 101 hydrochloride is a blood-brain barrier-crossing prodrug as well as aminopeptidase N and neutral endopeptidase-24.11 inhibitor. RB 101 hydrochloride blocks enkephalin breakdown, elevates

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

extracellular enkephalin levels and activate δ -opioid receptor and dopamine D1 receptor. RB 101 hydrochloride can be used for the research of pain, depressive syndromes, and diabetic neuropathy [1] [2] [3].

In Vivo, RB 101 (2.5-40 mg/kg; i.v.; single administration) hydrochloride dose-dependently inhibits [3H]diprenorphine binding to mouse brain opioid receptors under basal conditions^[1]. RB 101 (5-20 mg/kg; i.v.; single administration) hydrochloride potentiates stress-induced analgesia in mice, reaching 85% analgesia at 5 mg/kg when combined with warm-water swim stress^[1]. RB 101 (1.25-10 mg/kg; i.v.; single slow injection) hydrochloride induces a dose-dependent, long-lasting increase in spontaneous motor activity in mice via δ opioid and dopamine D1 receptor stimulation^[2]. RB 101 (2.5-10 mg/kg; i.v.; single slow injection) hydrochloride dose-dependently attenuates conditioned suppression of motility in shocked mice and increases striatal dopamine turnover, via δ opioid and dopamine D1 receptor stimulation^[2]. RB 101 (2.5-10 mg/kg; i.v.; single slow injection (20 s); 10 min before testing) hydrochloride significantly reduces immobility time in the mouse forced swim test via δ opioid and dopamine D1 receptor stimulation^[2]. RB 101 (5-40 mg/kg; i.v.) hydrochloride produces dose-dependent, μ - and δ -opioid receptor-mediated antinociception in Streptozocin -induced diabetic rats with neuropathic pain, completely suppressing mechanical hyperalgesia at doses of 20 and 40 mg/kg i.v.^[3].

In Vitro, RB 101 hydrochloride enhances spontaneous methionine-enkephalin-like material outflow from rat spinal cord tissue via inhibition of enkephalin degrading enzymes^[1].

References:

- [1]. Ruiz-Gayo M, et al. In vivo occupation of mouse brain opioid receptors by endogenous enkephalins: blockade of enkephalin degrading enzymes by RB 101 inhibits [3H]diprenorphine binding. Brain Res. 1992;571(2):306-312.
- [2]. Baamonde A, et al. Antidepressant-type effects of endogenous enkephalins protected by systemic RB 101 are mediated by opioid delta and dopamine D1 receptor stimulation. Eur J Pharmacol. 1992;216(2):157-166.
- [3]. Coudoré-Civiale MA, et al. Enhancement of the effects of a complete inhibitor of enkephalin-catabolizing enzymes, RB 101, by a cholecystokinin-B receptor antagonist in diabetic rats. Br J Pharmacol. 2001;133(1):179-185.

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA