上海源叶生物科技有限公司
Shanghai yuanye Bio-Technology Co., Ltd
电话：021-61312973　　传真：021-55068248
网址：www.shyuanye.com
邮箱：shyysw@sina.com

产品名称：Revefenacin
产品别名：TD-4208; GSK1160724

生物活性：

Description	Revefenacin (TD-4208; GSK1160724) is a potent mAChR antagonist; has a high affinity on M3 receptor with a Ki of 0.18 nM.
IC_{50} & Target	Ki: 0.42 nM (M1), 0.32 nM (M2), 0.18 nM (M3), 0.56 nM (M4), 6.7 nM (M5)[1]
In Vitro	The Kis of revefenacin are 0.42, 0.32, 0.18, 0.56, and 6.7 nM at human M1, M2, M3, M4 and M5 receptors, respectively. In a functional assay, revefenacin is shown to be a functional antagonist with inhibition constants similar to binding Ki's. Revefenacin also inhibits agonist-induced contraction of guinea pig isolated tracheal ring preparation with an affinity of 0.1 nM, similar to the measured M3 biding Ki[1].
In Vivo	In anesthetized dogs, revefenacin, along with tiotropium and glycopyrronium, produce sustained inhibition of acetylcholine-induced bronchoconstriction for up to 24 hours. In anesthetized rats, inhaled revefenacin exhibits dose-dependent 24-hour bronchoprotection against methacholine-induced bronchoconstriction. The estimated 24-hour potency is 45.0 μg/mL and the bronchoprotective potencies are maintained after 7 days of once-daily dosing[2].
Solvent&Solubility	***In Vitro:*** **DMSO : ≥ 125 mg/mL (209.12 mM)** * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.6729 mL	8.3647 mL	16.7294 mL
	5 mM	0.3346 mL	1.6729 mL	3.3459 mL
	10 mM	0.1673 mL	0.8365 mL	1.6729 mL

*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。

储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。

References	[1]. Steinfeld T, et al. In vitro characterization of TD-4208, a lung-selective and long-acting muscarinic antagonist bronchodilator (Abstract). Am J Respir Crit Care Med 179:A4553. [2]. Pulido-Rios MT, et al. In vivo pharmacological characterization of TD-4208, a novel lung-selective inhaled muscarinic antagonist with sustained bronchoprotective effect in experimental animal models. J Pharmacol Exp Ther. 2013 Aug;346(2):241-50.

实验参考：

Animal Administration	Rats: To determine the bronchoprotective and antisialagogue potency after a single dose, rats are exposed by inhalation to a nebulized solution of revefenacin (3–3000 μg/mL), tiotropium (0.3–300 μg/mL), glycopyrronium (1–1000 μg/mL), or vehicle (sterile water). Bronchoprotective activity is assessed 24 hours postdose. For the antisialagogue effect, inhibition of Pilo is assessed 1, 6, or 12 hours after inhalation of an efficacious dose of test compound to determine the time point at which peak effect occurred. All subsequent doses are measured at this time point[2].

References	[1]. Steinfeld T, et al. In vitro characterization of TD-4208, a lung-selective and long-acting muscarinic antagonist bronchodilator (Abstract). Am J Respir Crit Care Med 179:A4553. [2]. Pulido-Rios MT, et al. In vivo pharmacological characterization of TD-4208, a novel lung-selective inhaled muscarinic antagonist with sustained bronchoprotective effect in experimental animal models. J Pharmacol Exp Ther. 2013 Aug;346(2):241-50.