
Product Data Sheet

Product Name: ATC 0175 hydrochloride

Cat. No.: GC10700

Chemical Properties

Cas. No. 510733-97-8

Chemical Name N-((1s,4s)-4-((4-(dimethylamino)quinazolin-2-yl)amino)cyclohexyl)-3,4-difluorobenzamide hydrochloride

SMILES FC1=CC(C(N[C@H]2CC[C@H](CC2)NC3=NC4=CC=CC=C4C(N(C)C)=N3)=O)=CC=C1F.ClFormula C₂₃H₂₅F₂N₅O.HCl M.Wt 461.94

Solubility <11.55mg/ml in ethanol Storage Store at -20°C

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**

ATC0175 hydrochloride is a potent, selective and orally active antagonist of melanin-concentrating hormone receptor 1 (MCH1) with IC₅₀ of 13 nM for MCH1. It was also shown to have affinity for 5-HT_{2B} and 5-HT_{1A} receptors with IC₅₀ of 9.66 nM and 16.9 nM respectively.

Melanin-concentrating hormone receptor (MCH1), a member of the G protein-coupled receptor family 1, is an integral plasma membrane protein which binds melanin-concentrating hormone. The protein can inhibit cAMP accumulation and stimulate intracellular calcium flux, and is probably involved in the neuronal regulation of food consumption.

In vitro, assays showed that this compound is a potent antagonist with a high affinity for MCH1R. The receptor binding and the functional assay (MCH-induced increase in [Ca²⁺]) indicated that ATC0175 is a noncompetitive antagonist at MCH1Rs 1.

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

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In vivo, ATC0175 displayed anxiolytic effects in numerous animal models of anxiety including the social interaction test, elevated plus-maze test, maternal separation-induced vocalization and stress-induced hyperthermia. In addition, ATC0175 treatment also exhibited antidepressant effects in the forced swimming test 2.

References:

1. Semple G, Tran TA, Kramer B, et al. Pyrimidine-based antagonists of h-MCH-R1 derived from ATC0175: in vitro profiling and in vivo evaluation. *Bioorganic & medicinal chemistry letters*. 2009;19(21):6166-6171.
2. Chaki S, Yamaguchi J, Yamada H, et al. ATC0175: an orally active melanin-concentrating hormone receptor 1 antagonist for the potential treatment of depression and anxiety. *CNS drug reviews*. 2005;11(4):341-352.

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