Product Data Sheet

Chemical Properties

Product Name: ABT 724 trihydrochloride
Cas No.: 587870-77-7
M.Wt: 402.75
Formula: C17H19N5.3HCl

Chemical Name: 2-((4-(pyridin-2-yl)piperazin-1-yl)methyl)-1H-benzo[d]imidazole trihydrochloride
Canonical SMILES: N1(CC2=NC3=CC=CC=C3N2)CCN(C4=NC=CC=C4)CC1.Cl.Cl.Cl

Solubility: <40.27mg/ml in H2O
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.
Shopping Condition: Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: Neuroscience
Pathways: Dopamine Receptor

Description:
ABT 724 trihydrochloride is a highly selective D4 dopamine agonist [1][2], with an EC50 of 281 nM in increasing the binding activity of GTPγS in CHO cells transfected with human D4 receptors, and of 12.4 nM in increasing Ca2+ influx of HEK-293 cells co-transfected with a G protein (Gαq05) and rat/human D4 receptors [3].
The neurotransmitter dopamine (DA) is important for regulating functions of human T cell. Through D1/D5, D2, and D3 receptors, DA can activate resting T cells by stimulating the expression of surface integrins and the release of cytokines. By down-regulating nonreceptor...
tyrosine kinases, DA can inhibit the proliferation of activated T cells. Stimulation of dopamine D4 receptors can induce T cell quiescence [1]. With the presence of the D4 receptors, T cells were treated with the specific D4 DA agonist PD 168,077 at a concentration of 1 ?M at the onset of 48 h of TCR stimulation with anti-CD3/CD28 so that the D4 DA agonist remained throughout this period, The proliferation of these cells was significantly inhibited. This result was from the evidence of [3H]thymidine incorporation. When treated with another D4 DA agonist, ABT 724 trihydrochloride at a concentration of 1 ?M, T cells also showed similar results [1]. Clozapine has high affinity for the dopamine D4 receptor [4]. Compared to treatment with clozapine alone, clozapine plus 50 ?M or 25 ?M ABT-724 significantly increase the locomotor activity of zebrafish larvae. The effect of ABT-724 to protect larvae from the clozapine-induced hypoactivity is in a dose-dependent fashion [5].

Reference:


Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.