Data Sheet (Cat.No.T214275)

TargetMol

BChE-IN-46

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	BChE-IN-46 is a selective BChE inhibitor with the ability to penetrate the blood-brain barrier [eqBChE IC50 = 7.44 × 10^-5 μM, SI > 270,000, hBChE IC50 = 1.48 × 10^-3 μM]. It also exhibits COX-2 inhibitory activity (IC50 = 0.11 μM). BChE-IN-46 may offer neuroprotective effects, enhance acetylcholine levels, and improve cognitive dysfunction, anxiety, as well as learning and memory deficits. It is a potential candidate for the development of anti-Alzheimer's disease drugs.
Targets(IC50)	Cholinesterase (ChE),COX
In vitro	BChE-IN-46 (Compound 17) demonstrates good in vitro cytosafety at a concentration of 100 μM over 24 hours in BV2, PC12, and HT22 cells. At concentrations ranging from 5 to 20 μM, BChE-IN-46 exhibits anti-inflammatory activity in Lipopolysaccharides (LPS)-induced BV2 cells. Additionally, in the β-Amyloid (1-42) (Aβ1-42)-induced PC12 cell damage model, BChE-IN-46 provides neuroprotective effects at concentrations between 10 and 40 μM over 24 hours.
In vivo	BChE-IN-46 (compound 17), administered intraperitoneally at doses of 3-25 mg/kg once daily for 16 days, has been shown to alleviate cognitive deficits, anxiety, and learning/memory impairments induced by scopolamine in Kunming mice. A single intraperitoneal dose of BChE-IN-46 (250 mg/kg) demonstrates good in vivo safety in Kunming mice. Additionally, BChE-IN-46, at a single dose of 100 mg/kg administered intraperitoneally, exhibits effective blood-brain barrier penetration and cerebrospinal fluid retention in male SD rats.