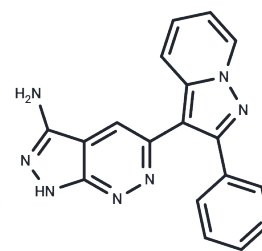


FR 180204

Chemical Properties

CAS No. : 865362-74-9
 Formula: C₁₈H₁₃N₇
 Molecular Weight: 327.34
 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	FR 180204 is a potent and selective ATP-competitive inhibitor of ERK1 and ERK2.
Targets(IC50)	Apoptosis,ERK,Anti-infection
In vitro	In a mouse model of Dengue virus (DENV) infection, FR180204 was observed to restrict hepatocyte apoptosis, reduce DENV-induced liver damage, and enhance clinical parameters. Additionally, in mice with collagen-induced arthritis, FR180204 (100 mg/kg, i.p., b.i.d.) significantly mitigated the severity of symptoms and weight loss.
In vivo	FR 180204 inhibits the spontaneous growth of mesothelioma cells. In AP-1 transfected cells, FR180204 dose-dependently suppresses AP-1 transactivation, with an IC50 of 3.1 μM.
Kinase Assay	ERK assay: Nunc-Immuno MaxiSorp plates are coated with 20 μg/ml MBP solution in phosphate-buffered saline (PBS). After washing with PBS containing 0.05% Tween 20 (T-PBS), blocking buffer (T-PBS containing 3% BSA) is added to each well and the plates are incubated for 10 min at room temperature. After washing with T-PBS, chemical compounds, ATP and recombinant ERK2 diluted in assay dilution buffer (20 mM Mops, pH 7.2, 25 mM β-glycerol phosphate, 5 mM EGTA, 1 mM sodium orthovanadate, 1 mM dithiothreitol, and 50 μg/ml BSA) and are added to each well. Vehicle groups (containing 0.1% DMSO) and kinase-withdrawal groups are used for the control and basal determinations. After incubation for 1 h at room temperature, plates are washed twice with T-PBS. Anti-phospho MBP antibody (0.2 μg/ml) is added to each well, and the plates are incubated for 1 h at room temperature. After washing, anti-mouse HRP-conjugated polyclonal antibodies are added and the plates were incubated for 30 min. SuperSignal chemiluminescent substrate is used for the measurement of HRP activity according to the manufacturer's instructions. Prism 4.0 software is used for the Lineweaver-Burk plot analysis, IC50 and Ki determinations.
Cell Research	Cell viability is assayed by the method using MTT. MTT-reactive cells are quantified at an absorbance of 570 nm using a micro-plate reader. (Only for Reference)

Solubility Information

Solubility	DMSO: 145 mg/mL (442.96 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: < 10 mg/mL (30.55 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: < 10 mg/mL (30.55 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+90% (20% SBE-β-CD in Saline): < 10 mg/mL (30.55 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0549 mL	15.2746 mL	30.5493 mL
5 mM	0.611 mL	3.0549 mL	6.1099 mL
10 mM	0.3055 mL	1.5275 mL	3.0549 mL
50 mM	0.0611 mL	0.3055 mL	0.611 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

- Ohuri M, et al. Biochem Biophys Res Commun. 2005, 336(1), 357-363.
- Lin H, Lu P, Zhou M, et al. Purification of recombinant human fibroblast growth factor 13 in E. coli and its molecular mechanism of mitogenesis. Applied Microbiology and Biotechnology. 2019: 1-11
- Shao N, Lu Q, Ouyang Z, et al. Ganoderic acid a alleviates Aβ25– 35-induced HT22 cell apoptosis through the ERK/MAPK pathway: a system pharmacology and in vitro experimental validation. Metabolic Brain Disease. 2025, 40(1): 1-16.
- Ohuri M, et al. Naunyn Schmiedebergs Arch Pharmacol. 2007, 374(4), 311-316.
- Honda M, et al. Cell Physiol Biochem. 2012, 29(5-6), 667-674.
- Sreekanth GP, et al. Virus Res. 2014, 188, 15-26.
- Lv, Jiawen, Junchao Zeng, Wen Zhao, Yuanxiong Cheng, Lin Zhang, Shaoxi Cai, Guodong Hu, and Yinghua Chen. Cdc42 regulates LPS-induced proliferation of primary pulmonary microvascular endothelial cells via ERK pathway [J]. Microvascular research . 2017 Jan;109:45-53
- Lin H, Lu P, Zhou M, et al. Purification of recombinant human fibroblast growth factor 13 in E. coli and its molecular mechanism of mitogenesis[J]. Applied microbiology and biotechnology. 2019: 1-11.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only· Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481