Stafia-1

Cat. No.: HY-136546

Molecular Formula: $C_{24}H_{27}O_{10}P$

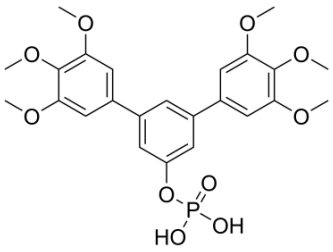
Molecular Weight: 506.44

Target: STAT

Pathway: JAK/STAT Signaling; Stem Cell/Wnt

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (493.64 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.9746 mL	9.8728 mL	19.7457 mL
5 mM	0.3949 mL	1.9746 mL	3.9491 mL
10 mM	0.1975 mL	0.9873 mL	1.9746 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.11 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.11 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.11 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Stafia-1 is a potent STAT5a inhibitor (K_i=10.9 μM, IC_{50}=22.2 μM). Stafia-1 displays high selectivity over STAT5b and other STAT family members[1].

IC_{50} & Target

STAT5a 10.9 μM (Ki)	STAT5a 22.2 μM (IC_{50})

In Vitro

Stafia-1 shows at least 9-fold selectivity over STAT5b and higher selectivity against other STAT family members[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Natarajan K, et al. Stafia-1: a STAT5a-Selective Inhibitor Developed via Docking-Based Screening of in Silico O-Phosphorylated Fragments. Chemistry. 2020;26(1):148-154.

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