STAT5-IN-1

Cat. No.: HY-101853

CAS No.: 285986-31-4

Molecular Formula: $C_{16}H_{11}N_3O_3$

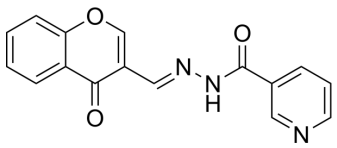
Molecular Weight: 293.28

Target: STAT

Pathway: JAK/STAT Signaling; Stem Cell/Wnt

Storage:

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 20 mg/mL (68.19 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.4097 mL	17.0486 mL	34.0971 mL
5 mM	0.6819 mL	3.4097 mL	6.8194 mL
10 mM	0.3410 mL	1.7049 mL	3.4097 mL

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

In Vivo

1. Add each solvent one by one: 0.5% CMC-Na/saline water
   Solubility: 12.5 mg/mL (42.62 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 50% PEG300 >> 50% saline
   Solubility: 12.5 mg/mL (42.62 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2 mg/mL (6.82 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

STAT5-IN-1 is a STAT5 inhibitor with an IC_{50} of 47 μM for STAT5β isoform.

IC_{50} & Target

STAT5β
47 μM (IC_{50})

In Vitro

The signal transducer and activator of transcription 5 (STAT5) is a member of the STAT family of proteins, implicated in cell growth and differentiation. STAT5-IN-1 inhibits STAT5 by binding to the SH2 domain. The functions of the SH2 domains of

STAT3, STAT1, and of the tyrosine kinase Lck are inhibited to a lesser extent (IC50>500 μM). STAT5-IN-1 block STAT5/STAT5 DNA binding in K562 nuclear extracts. Substitution of the hydrogen at C6 of the chromone ring by an ethyl group does not affect activity of STAT5-IN-1 against STAT5β, but leads to complete loss of selectivity against other STAT family members[1].

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

CUSTOMER VALIDATION

- Cell Metab. 2023 Oct 3;35(10):1688-1703.e10.
- Nat Commun. 2022 Nov 4;13(1):6648.
- Nat Commun. 2018 Nov 19;9(1):4874.
- Biomaterials. 2017 Jun;130:14-27.
- Cancer Res. 2024 Jan 17.

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REFERENCES

[1]. Müller J, et al. Discovery of chromone-based inhibitors of the transcription factor STAT5. Chembiochem. 2008 Mar 25;9(5):723-7.

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