

STAT5-IN-1

Chemical Properties

CAS No. : 285986-31-4

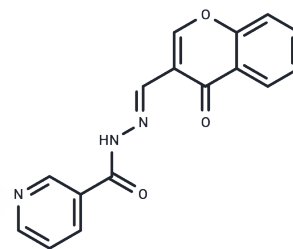
Formula: C₁₆H₁₁N₃O₃

Molecular Weight: 293.28

Storage: Store at low temperature, Keep away from direct sunlight

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 | STAT5-IN-1 (STAT5 Inhibitor) is a cell-permeable inhibitor which suppresses Stat5 via binding to the SH2 domain. |
| Targets(IC50) | STAT |
| In vitro | The chemical compound STAT5-IN-1 serves as an inhibitor of Signal Transducer and Activator of Transcription 5 (STAT5), a protein crucial for cell growth and differentiation. By attaching to the SH2 domain of STAT5, it selectively impedes its activity. While it also affects STAT3, STAT1, and the Lck tyrosine kinase, this inhibition is significantly less pronounced (IC ₅₀ > 500 μM). Additionally, STAT5-IN-1 effectively prevents the interaction between STAT5 and DNA within K562 nuclear extracts. Notably, modifying the chromone ring's C6 hydrogen to an ethyl group in STAT5-IN-1 does not diminish its efficacy against STAT5β; however, it eradicates its selectivity towards other STAT family members. |

Solubility Information

| | |
|---------------------|---|
| Solubility | DMSO: 50 mg/mL (170.49 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble) |
| In vivo Formulation | 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (6.82 mM), Sonication is recommended. <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 | 3.4097 mL | 17.0486 mL | 34.0971 mL |
| 5 mM | 0.6819 mL | 3.4097 mL | 6.8194 mL |
| 10 mM | 0.341 mL | 1.7049 mL | 3.4097 mL |
| 50 mM | 0.0682 mL | 0.341 mL | 0.6819 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

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

Chen C, Lu M, Lin S, et al. The nuclear gene rpl18 regulates erythroid maturation via JAK2-STAT3 signaling in zebrafish model of Diamond-Blackfan anemia. *Cell Death & Disease*. 2020, 11(2): 1-11

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Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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