Small Molecules

STAT5 Inhibitor

JAK/STAT pathway inhibitor; Inhibits STAT5

Catalog # 73852

5 mg

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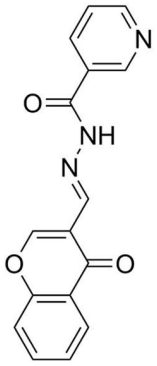
Product Description

STAT5 Inhibitor is a cell-permeable, nonpetidic nicotinoyl hydrazone that specifically suppresses STAT5 (IC_{50} = 47 µM) via binding to its SH2 domain. It shows reduced potency towards the SH2 domains of STAT1, STAT3, and LCK (Müller et al.).

Molecular Name: STAT5 Inhibitor
Alternative Names: Not applicable
CAS Number: 285986-31-4
Chemical Formula: $C_{16}H_{11}N_3O_3$
Molecular Weight: 293.3 g/mol
Purity: ≥ 95%
Chemical Name: 2-[(4-oxo-4H-1-benzopyran-3-yl)methylene]hydrazide 3-pyridinecarboxylic acid
Structure:



Properties

Physical Appearance: A crystalline solid

Storage: Product stable at -20°C as supplied. Protect product from prolonged exposure to light. For long-term storage store with a desiccant.
Stable as supplied for 12 months from date of receipt.

Solubility: · DMSO ≤ 17 mM
For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 341 µL of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

IMMUNOLOGY
· Induces partial apoptosis of mature eosinophils at high concentrations (Schwartz et al.).
· Rescues IL-17 production in a proportion of restimulated TH17 clones (Zielinski et al.).
· Reduces growth of induced regulatory T cells (iTregs) in vitro (Betts et al.).

References

Betts BC et al. (2014) STAT5 polarization promotes iTregs and suppresses human T-cell alloresponses while preserving CTL capacity. J Leukoc Biol 95(2): 205–13.
Müller J et al. (2008) Discovery of chromone-based inhibitors of the transcription factor STAT5. Chembiochem 9(5): 723–7.
Schwartz C et al. (2015) Eosinophil-specific deletion of IκBα in mice reveals a critical role of NF-κB-induced Bcl-xL for inhibition of apoptosis. Blood 125(25): 3896–904.
Zielinski CE et al. (2012) Pathogen-induced human TH17 cells produce IFN-γ or IL-10 and are regulated by IL-1β. Nature 484(7395): 514–8.

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