Small

Molecules

STAT5 Inhibitor

JAK/STAT pathway inhibitor; Inhibits

STAT

Catalog # 73852 5 mg



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Product Description

STAT5 Inhibitor is a cell-permeable, nonpetidic nicotinoyl hydrazone that specifically suppresses STAT5 (IC₅₀ = 47 μ M) via binding to its SH2 domain. It shows reduced potency towards the SH2 domains of STAT1, STAT3, and LCK (Müller et al.).

 $\begin{tabular}{llll} Molecular Name: & STAT5 Inhibitor \\ Alternative Names: & Not applicable \\ CAS Number: & 285986-31-4 \\ Chemical Formula: & C_{16}H_{11}N_3O_3 \\ Molecular Weight: & 293.3 g/mol \\ \end{tabular}$

Purity: $\geq 95\%$

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: \cdot DMSO \leq 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.

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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-1 β . Nature 484(7395): 514–8.

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