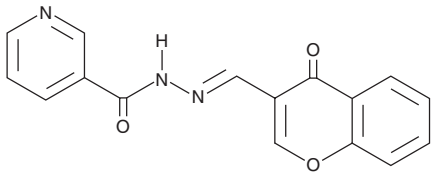
PRODUCT INFORMATION

STAT5 Inhibitor

Item No. 15784

CAS Registry No.: 285986-31-4
Formal Name: 2-[(4-oxo-4H-1-benzopyran-3-yl)methylene] hydrazide 3-pyridinecarboxylic acid
Synonym: Signal Transducers and Activators of Transcription 5
MF: $C_{16}H_{11}N_3O_3$
FW: 293.3
Purity: ≥95%
UV/Vis.: λ_{max}: 220, 275, 307 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

STAT5 Inhibitor is supplied as a crystalline solid. A stock solution may be made by dissolving the STAT5 Inhibitor in the solvent of choice. STAT5 Inhibitor is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of STAT5 Inhibitor in these solvents is approximately 5 and 2 mg/ml, respectively.

STAT5 Inhibitor is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, STAT5 Inhibitor should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. STAT5 Inhibitor has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Signal Transducers and Activators of Transcriptions (STATs) are a family of cytoplasmic latent transcription factors that are activated to regulate gene expression in response to a large number of extracellular signaling polypeptides including cytokines, interferons, and growth factors.[1-3] STAT5, which consists of two isoforms STAT5α and STAT5β, is known to be overactive in several kinds of leukemias and various solid tumors. STAT5 Inhibitor is a cell-permeable, nonpetidic nicotinoyl hydrazone that suppresses STAT5 by targeting its SH2 domain (IC_{50} = 47 µM against STAT5β SH2 domain EPO peptide binding activity).[4] Comparatively, this compound exhibits reduced potency towards inhibiting the SH2 domain of STAT1, STAT3, or Lck (IC_{50} > 500 µM).[4] STAT5 Inhibitor has been shown to block STAT5/STAT5 DNA binding in K562 nuclear extracts.[4]

References

1. Leonard, W.J. and O'Shea, J.J. JAKS AND STATS: Biological implications. *Annu. Rev. Immunol.* **16**, 293-322 (1998).
2. Schindler, C. and Darnell, J.E., Jr. Transcriptional responses to polypeptide ligands: The JAK-STAT pathway. *Annu. Rev. Biochem.* **64**, 621-52 (2011).
3. Darnell, J.E., Jr. STATs and gene regulation. *Science* **277**, 1630-1635 (1997).
4. Müller, J., Sperl, B., Reindl, W., *et al.* Discovery of chromone-based inhibitors of the transcription factor STAT5. *ChemBioChem* **9(5)**, 723-727 (2008).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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