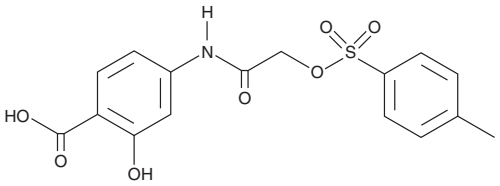
PRODUCT INFORMATION

S3I-201

Item No. 14336

CAS Registry No.: 501919-59-1
Formal Name: 2-hydroxy-4-[[2-[[(4-methylphenyl) sulfonyl]oxy]acetyl]amino]-benzoic acid
Synonym: NSC 74859
MF: $C_{16}H_{15}NO_7S$
FW: 365.4
Purity: ≥95%
UV/Vis.: λ_{max}: 219, 268, 309 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

S3I-201 is supplied as a crystalline solid. A stock solution may be made by dissolving the S3I-201 in the solvent of choice. S3I-201 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of S3I-201 in these solvents is approximately 16 and 12.5 mg/ml, respectively.

S3I-201 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, S3I-201 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. S3I-201 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF: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 transcription (STATs) are a family of latent cytoplasmic transcription factors that convey signals from the cell membrane to the nucleus. In various human tumors, STAT3 is constitutively activated by aberrant upstream tyrosine kinase activities.[1] STAT signaling is also suspected to play a role in vascular disease since it can be activated through angiotensin II type 1 receptors or the inflammatory mediator interleukin (IL)-6.[2] S3I-201 is an inhibitor of STAT3 transcription factor activation, dimerization, and gene transcription. It can suppress IL-6-induced phosphorylation of STAT3 in T cells with an IC_{50} value of 38 µM.[3] Inhibiting STAT3 activation with 10 µM S3I-201 was demonstrated to be protective against angiotensin II-induced oxidative stress, endothelial dysfunction, and hypertension in two different models of vascular disease.[2] At 10 µM, S3I-201 has also been used as a means to regress cardiac hypertrophy by inhibiting collagen biosynthesis and decreasing atrial natriuretic factor and β-myosin heavy chain in an *in vitro* model.[4]

References

1. Schust, J., Sperl, B., Hollis, A., *et al. Chem. Biol.* **13(11)**, 1235-1242 (2006).
2. Johnson, A.W., Kinzenbaw, D.A., Modrick, M.L., *et al. Hypertension* **61(2)**, 437-442 (2013).
3. Zhang, S., Zheng, M., Kibe, R., *et al. FASEB J.* **25(7)**, 2387-2398 (2011).
4. Mir, S.A., Chatterjee, A., Mitra, A., *et al. J. Biol. Chem.* **287(4)**, 2666-2677 (2012).

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