

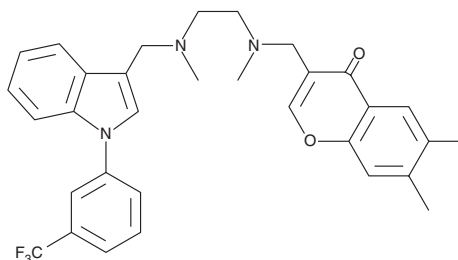
Product Information



SPD-304

Item No. 10008012

CAS Registry No.: 869998-49-2
Formal Name: 6,7-dimethyl-3-[[methyl[2-[methyl[[1-[3-(trifluoromethyl)phenyl]-1H-indol-3-yl]methyl]amino]ethyl]amino]methyl]-4H-1-benzopyran-4-one
MF: C₃₂H₃₂F₃N₃O₂
FW: 547.6
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that SPD-304 be stored as supplied at -20°C. It should be stable for at least two years. SPD-304 is supplied as a crystalline solid. A stock solution may be made by dissolving the SPD-304 in an organic solvent purged with an inert gas. SPD-304 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of SPD-304 in these solvents is approximately 1 mg/ml in ethanol and DMF and approximately 10 mg/ml in DMSO.

SPD-304 is sparingly soluble in aqueous buffers. If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Tumor necrosis factor- α (TNF- α) is a primary mediator of many inflammatory conditions including rheumatoid arthritis, toxic shock, and sepsis.¹⁻³ TNF- α functions as a trimer and promotes receptor trimerization to activate proinflammatory and/or apoptotic signalling pathways.^{4,5} SPD-304 is an inhibitor of TNF- α that prevents binding to the TNF Receptor 1 (TNFR1) with an IC₅₀ value of 22 μ M.⁶ It binds to the biologically-active TNF- α trimer and promotes accelerated displacement of a single subunit to rapidly inactivate the cytokine. In a cell based assay, SPD-304 inhibited TNF- α -mediated stimulation of I κ B degradation with an IC₅₀ of 4.6 mM.⁶

References

1. Beutler, B., Greenwald, D., Hulmes, J.D., *et al.* Identity of tumor necrosis factor α /cachectin and tumor necrosis factor β /lymphotoxin in hematopoietic growth factor production and neutrophil adhesion molecule expression by cultured human endothelial cells. *J. Immunol.* **138**, 4298-4302 (1987).
2. Tracey, K.J., Beutler, B., Lowry, S.F., *et al.* Shock and tissue injury induced by recombinant human cachectin. *Science* **234**, 470-474 (1986).
3. Bidgood, M.J., Jamal, O.S., Cunningham, A.M., *et al.* Type IIA secretory phospholipase A₂ up-regulates cyclooxygenase-2 and amplifies cytokine-mediated prostaglandin production in human rheumatoid synoviocytes. *J. Immunol.* **165**, 2790-2797 (2000).
4. Thornberry, N.A. and Lazebnik, Y. Caspases: Enemies within. *Science* **281**, 1312-1316 (1998).
5. Wallach, D., Varfolomeev, E.E., Malinin, N.L., *et al.* Tumor necrosis factor receptor and Fas signaling mechanisms. *Ann. Rev. Immunol.* **17**, 133-167 (1999).
6. He, M.M., Smith, A.S., Oslob, J.D., *et al.* Small-molecule inhibition of TNF α . *Science* **310**, 1022-1025 (2005).

Related Products

ST638 - Item 13337 • TNF α (human) EIA Kit - Item No. 589201 • QNZ - Item No. 10006734 • Luteolin - Item No. 10008012

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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