

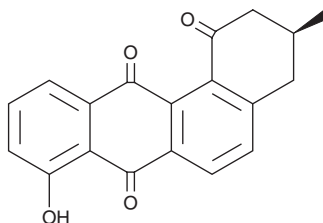
PRODUCT INFORMATION



STA-21

Item No. 14996

CAS Registry No.: 28882-53-3
Formal Name: (3S)-3,4-dihydro-8-hydroxy-3-methyl-benz[a]anthracene-1,7,12(2H)-trione
Synonym: Ochromycinone
MF: C₁₉H₁₄O₄
FW: 306.3
Purity: ≥95%
UV/Vis.: λ_{max}: 265, 400 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

STA-21 is supplied as a crystalline solid. A stock solution may be made by dissolving the STA-21 in the solvent of choice, which should be purged with an inert gas. STA-21 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of STA-21 in these solvents is approximately 16 and 25 mg/ml, respectively.

STA-21 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, STA-21 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. STA-21 has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

STA-21 is a natural antibiotic that potently inhibits STAT3 by preventing its dimerization and DNA binding when used at concentrations of 20-30 μM.¹ It blocks the growth and survival of cancer cells that express constitutively active STAT3 (e.g., DU145 cells, IC₅₀ = 12.2 μM).¹⁻³ STAT3 inhibitors, including STA-21, prevent the proliferation of human keratinocytes and have value in improving psoriasis.⁴

References

1. Song, H., Wang, R., Wang, S., *et al.* A low-molecular-weight compound discovered through virtual database screening inhibits Stat3 function in breast cancer cells. *Proc. Natl. Acad. Sci. U.S.A.* **102**(13), 4700-4705 (2005).
2. Bhasin, D., Cisek, K., Pandharkar, T., *et al.* Design, synthesis, and studies of small molecule STAT3 inhibitors. *Bioorg. Med. Chem. Lett.* **18**(1), 391-395 (2008).
3. Chen, C.L., Loy, A., Cen, L., *et al.* Signal transducer and activator of transcription 3 is involved in cell growth and survival of human rhabdomyosarcoma and osteosarcoma cells. *BMC Cancer* **7**, 111 (2007).
4. Miyoshi, K., Takaishi, M., Nakajima, K., *et al.* Stat3 as a therapeutic target for the treatment of psoriasis: A clinical feasibility study with STA-21, a Stat3 inhibitor. *J. Invest. Dermatol.* **131**(1), 108-117 (2011).

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.

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