

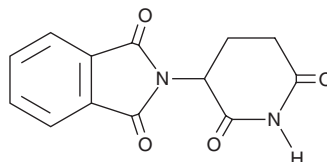
PRODUCT INFORMATION



(±)-Thalidomide

Item No. 14610

CAS Registry No.: 50-35-1
Formal Name: 2-(2,6-dioxo-3-piperidiny)-1H-isoindole-1,3(2H)-dione
Synonyms: N-Phthaloylglutamide, NSC 66847, NSC 527179
MF: C₁₃H₁₀N₂O₄
FW: 258.2
Purity: ≥98%
UV/Vis.: λ_{max}: 218, 240, 294 nm
Supplied as: A 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

(±)-Thalidomide is supplied as a solid. A stock solution may be made by dissolving the (±)-thalidomide in the solvent of choice, which should be purged with an inert gas. (±)-Thalidomide is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of (±)-thalidomide in these solvents is approximately 12 mg/ml.

(±)-Thalidomide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (±)-thalidomide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. (±)-Thalidomide has a solubility of approximately 0.11 mg/ml in a 1:8 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

(±)-Thalidomide is an immunomodulatory compound with diverse biological activities, including anticancer, anti-inflammatory, and teratogenic properties.¹⁻³ It prevents polymorphonuclear leukocyte (PMN) chemotaxis when used at concentrations of 1, 10, and 100 µg/ml.¹ (±)-Thalidomide increases IL-2-induced proliferation and IFN-γ production in primary human T cells *in vitro*.² It enhances natural killer (NK) cell-mediated cytotoxicity in MM.1S multiple myeloma cells.³ Thalidomide (4 mg/animal) reduces lung IL-6, TGF-β, VEGF, angiopoietin-1, angiopoietin-2, and collagen type Iα1 expression, inhibits pulmonary angiogenesis, and attenuates fibrosis in a mouse model of bleomycin-induced pulmonary fibrosis.⁴ It induces apoptosis in primary human embryonic fibroblasts (EC₅₀ = 8.9 µM) and induces limb and eye defects in chicken embryos (EC₅₀ = 50 µg/kg egg weight).⁵ Formulations containing thalidomide have been used in the treatment of multiple myeloma and erythema nodosum leprosum (ENL) in non-pregnant individuals.

References

1. Faure, M., Thivolet, J., and Gaucherand, M. *Arch. Dermatol. Res.* **269(3)**, 275-280 (1980).
2. Haslett, P.A., Corral, L.G., Albert, M., *et al. J. Exp. Med.* **187(11)**, 1885-1892 (1998).
3. Davies, F.E., Raju, N., Hideshima, T., *et al. Blood* **98(1)**, 210-216 (2001).
4. Tabata, C., Tabata, R., Kadokawa, Y., *et al. J. Immunol.* **179(1)**, 708-714 (2007).
5. Knobloch, J., Shaughnessy, J.D., Jr., and Rüther, U. *FASEB J.* **21(7)**, 1410-1421 (2007).

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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