

## Certificate of Analysis

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**Product Name:** Thalidomide

CAS Number: 50-35-1

IUPAC Name: *N*-(2,6-dioxo-3-piperidinyl)phthalimide

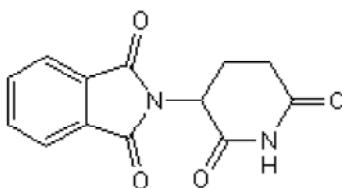
**Catalog No.:** 0652

**Batch No.:** 11

EC Number: 200-031-1

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>13</sub>H<sub>10</sub>N<sub>2</sub>O<sub>4</sub>  
**Batch Molecular Weight:** 258.23  
**Physical Appearance:** White solid  
**Solubility:** DMSO to 25 mM  
**Storage:** Store at RT  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**HPLC:** Shows >99.9% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	60.47	3.9	10.84
Found	60.6	3.86	10.8

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Catalog No.:** 0652

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IUPAC Name: *N*-(2,6-dioxo-3-piperidinyl)phthalimide

**Description:**

Selective inhibitor of tumor necrosis factor  $\alpha$  (TNF- $\alpha$ ) synthesis. Anti-inflammatory; promotes T-cell activation. Predicted to reduce cytokine release in SARS-CoV-2 infection. Also binds cereblon, inhibiting ubiquitin ligase activity. Teratogenic and sedative-hypnotic. Promotes degradation of transcription factor SALL4.

**Physical and Chemical Properties:**

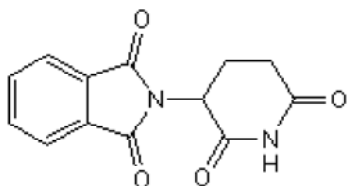
Batch Molecular Formula: C<sub>13</sub>H<sub>10</sub>N<sub>2</sub>O<sub>4</sub>

Batch Molecular Weight: 258.23

Physical Appearance: White solid

**Minimum Purity:**  $\geq$ 99%

**Batch Molecular Structure:**



**References:**

Li *et al* (2020) Network bioinformatics analysis provides insight into drug repurposing for COVID-2019 Preprint - Paper not yet peer reviewed...

Donovan *et al* (2018) Thal. promotes degradation of SALL4, a transcription factor implicated in Duane Radial Ray Syndrome. *Elife* **7** e38430. PMID: 30067223.

Ito *et al* (2010) Identification of a primary target of Thal. teratogenicity. *Science* **327** 1345. PMID: 20223979.

Zhang *et al* (2008) Thal. influences growth and vasculogenic mimicry channel formation in melanoma. *J.Exp.Clin.Cancer Res.* **27** 60. PMID: 18983651.

Boireau *et al* (1997) Thal. reduces MPTP-induced decrease in striatal DA levels in mice. *Neurosci.Lett.* **234** 123. PMID: 9364513.

Kanbayashi *et al* (1996) Thal., a hypnotic with immune modulating properties, increases cataplexy in canine narcolepsy. *Neuroreport* **7** 1881. PMID: 8905685.

Makonkawkeyoon *et al* (1993) Thal. inhibits the replication of human-immunodeficiency-virus type 1. *Proc.Natl.Acad.Sci.U.S.A.* **90** 5974. PMID: 8327469.

Sampaio *et al* (1991) Thal. selectively inhibits tumor necrosis factor  $\alpha$  production by stimulated human monocytes. *J.Exp.Med.* **173** 699. PMID: 1997652.

Merck Index **12** 9390.

**Storage:** Store at RT

**Solubility & Usage Info:**

DMSO to 25 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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