

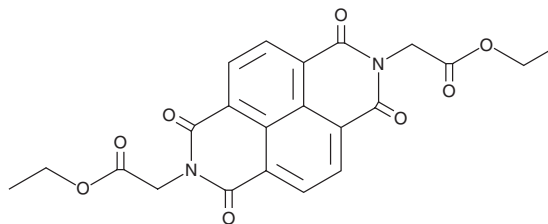
# PRODUCT INFORMATION



## PPlase-Parvulin Inhibitor

Item No. 17214

**CAS Registry No.:** 64005-90-9  
**Formal Name:** 1,3,6,8-tetrahydro-1,3,6,8-tetraoxo-benzo[*lmn*][3,8]phenanthroline-2,7-diacetic acid, 2,7-diethyl ester  
**Synonyms:** HIC 016C, PiB  
**MF:** C<sub>22</sub>H<sub>18</sub>N<sub>2</sub>O<sub>8</sub>  
**FW:** 438.4  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 234, 338, 356, 376 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

PPlase-Parvulin inhibitor is supplied as a crystalline solid. A stock solution may be made by dissolving the PPlase-parvulin inhibitor in the solvent of choice, which should be purged with an inert gas. PPlase-Parvulin inhibitor is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of PPlase-Parvulin inhibitor in these solvents is approximately 10 mg/ml.

### Description

Peptidyl-prolyl isomerases (PPlases) assist in the folding of newly-synthesized proteins, regulating the stability, localization, and activity of mature proteins.<sup>1</sup> PPlase-Parvulin Inhibitor is a cell-permeable inhibitor of the PPlases Pin1 and Pin4 (IC<sub>50</sub>s = 1.5 and 1.0 μM, respectively), interacting with the PPlase domain.<sup>2</sup> It blocks the proliferation of cancer cells that overexpress Pin1 and Pin4 (IC<sub>50</sub> range = 2-5 μM), and similarly inhibits wild type mouse embryonic fibroblasts (MEFs) but not Pin1<sup>-/-</sup> MEFs.<sup>2</sup> PPlase-Parvulin Inhibitor does not inhibit topoisomerase I or bind DNA. Also referred to as PiB, this compound is commonly used to determine the role of Pin1 in regulating various substrates and cellular functions.<sup>3-6</sup>

### References

1. Hanes, S.D. Prolyl isomerases in gene transcription. *Biochim. Biophys. Acta* **1850(10)**, 2017-2034 (2014).
2. Uchida, T., Takamiya, M., Takahashi, M., *et al.* Pin1 and Par14 peptidyl prolyl isomerase inhibitors block cell proliferation. *Chem. Biol.* **10(1)**, 15-24 (2003).
3. Farrell, A.S., Pelz, C., Wang, X., *et al.* Pin1 regulates the dynamics of c-Myc DNA binding to facilitate target gene regulation and oncogenesis. *Mol. Cell. Biol.* **33(15)**, 2930-2949 (2015).
4. Ghosh, A., Saminathan, H., Kanthasamy, A., *et al.* The peptidyl-prolyl isomerase Pin1 up-regulation and proapoptotic function in dopaminergic neurons: Relevance to the pathogenesis of Parkinson disease. *J. Biol. Chem.* **288(30)**, 21955-21971 (2013).
5. Rustighi, A., Zannini, A., Tiberi, L., *et al.* Prolyl-isomerase Pin1 controls normal and cancer stem cells of the breast. *EMBO Mol. Med.* **6(1)**, 99-119 (2014).
6. Antonelli, R., Pizzarelli, R., Pedroni, A., *et al.* Pin1-dependent signalling negatively affects GABAergic transmission by modulating neuroligin2/gephyrin interaction. *Nat. Commun.* **5**, 5066 (2014).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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