

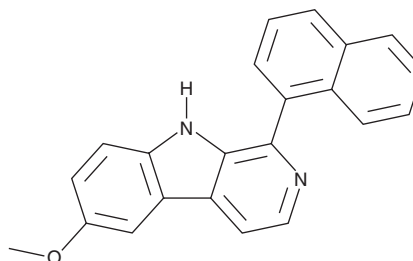
# PRODUCT INFORMATION



## SP-141

Item No. 17003

**CAS Registry No.:** 1253491-42-7  
**Formal Name:** 6-methoxy-1-(1-naphthalenyl)-9H-pyrido[3,4-b]indole  
**Synonym:** AGN-PC-OD106I  
**MF:** C<sub>22</sub>H<sub>16</sub>N<sub>2</sub>O  
**FW:** 324.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 221, 300, 365 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

SP-141 is supplied as a crystalline solid. A stock solution may be made by dissolving the SP-141 in the solvent of choice. SP-141 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of SP-141 in these solvents is approximately 100, 30, and 50 mg/ml, respectively.

SP-141 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, SP-141 should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. SP-141 has a solubility of approximately 0.25 mg/ml in a 1:3 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Mouse double minute 2 protein (MDM2) is an E3 ubiquitin-protein ligase that binds and ubiquitinates the tumor suppressor p53, leading to its degradation by the proteasome.<sup>1</sup> SP-141 is a cell-permeable inhibitor of MDM2 (K<sub>i</sub> = 28 nM).<sup>2</sup> Binding of MDM2 by SP-141 promotes its auto-ubiquitination and proteasomal degradation.<sup>2,3</sup> SP-141 induces cell cycle arrest and apoptosis in breast and pancreatic cancer cell lines and inhibits xenograft tumor growth *in vivo*.<sup>2,3</sup> This compound has a short half-life in plasma and wide tissue distribution in tumor-bearing nude mice.<sup>4</sup>

### References

1. Vassilev, L.T., Vu, B.T., Graves, B., *et al.* *In vivo* activation of the p53 pathway by small-molecule antagonists of MDM2. *Science* **303**, 844-848 (2004).
2. Wang, W., Qin, J.-J., Voruganti, S., *et al.* The pyrido[b]indole MDM2 inhibitor SP-141 exerts potent therapeutic effects in breast cancer models. *Nat. Commun.* **5**, 1-12 (2014).
3. Wang, W., Qin, J.J., Voruganti, S., *et al.* Identification of a new class of MDM2 inhibitor that inhibits growth of orthotopic pancreatic tumors in mice. *Gastroenterology* **147**(4), 893-902 (2014).
4. Nag, S., Qin, J.J., Voruganti, S., *et al.* Development and validation of a rapid HPLC method for quantitation of SP-141, a novel pyrido[b]indole anticancer agent, and an initial pharmacokinetic study in mice. *Biomed. Chromatogr.* **29**(5), 654-663 (2015).

#### 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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