

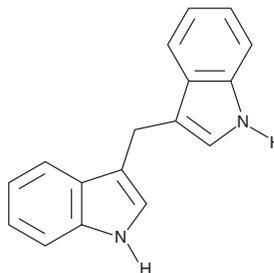
PRODUCT INFORMATION



3,3'-Diindolylmethane

Item No. 15927

CAS Registry No.: 1968-05-4
Formal Name: 3,3'-methylenebis-1H-indole
Synonym: DIM
MF: C₁₇H₁₄N₂
FW: 246.3
Purity: ≥98%
UV/Vis.: λ_{max}: 225, 283 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

3,3'-Diindolylmethane is supplied as a crystalline solid. A stock solution may be made by dissolving the 3,3'-diindolylmethane in the solvent of choice, which should be purged with an inert gas. 3,3'-Diindolylmethane is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 3,3'-diindolylmethane in ethanol is approximately 15 mg/ml and approximately 30 mg/ml in DMSO and DMF.

3,3'-Diindolylmethane is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 3,3'-diindolylmethane should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 3,3'-Diindolylmethane has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

3,3'-Diindolylmethane (DIM) is a bioactive metabolite of indole-3-carbinol, a phytochemical produced by the breakdown of the glucosinolate glucobrassicin found in cruciferous vegetables. At 10-30 μM, it demonstrates anticancer and chemopreventative effects involving Nrf2 induction of Phase 2 enzymes, promotion of apoptosis, induction of cell cycle arrest, inhibition of cell proliferation, and inhibition of histone deacetylases and DNA methylation activities.¹⁻³ Furthermore, at 0.3 μM DIM was shown to act as a potent radioprotector and mitigator of the effects of ionizing radiation exposure by stimulating an ATM-driven DNA damage-like response and NF-κB survival signaling in cultured epithelial cells.⁴

References

1. Wong, C.P., Hsu, A., Buchanan, A., *et al.* Effects of sulforaphane and 3,3'-diindolylmethane on genome-wide promoter methylation in normal prostate epithelial cells and prostate cancer cells. *PLoS One* **9**(1), (2014).
2. Wu, T.Y., Khor, T.O., Su, Z.Y., *et al.* Epigenetic modifications of Nrf2 by 3,3'-diindolylmethane *in vitro* in TRAMP C1 cell line and *in vivo* TRAMP prostate tumors. *AAPS J.* **15**(3), 864-874 (2013).
3. Xu, Y., Zhang, J., Shi, W., *et al.* Anticancer effects of 3,3'-diindolylmethane are associated with G1 arrest and mitochondria-dependent apoptosis in human nasopharyngeal carcinoma cells. *Oncol. Lett.* **5**(2), 655-662 (2013).
4. Fan, S., Meng, Q., Xu, J., *et al.* DIM (3,3'-diindolylmethane) confers protection against ionizing radiation by a unique mechanism. *Proc. Natl. Acad. Sci. USA* **110**(46), 18650-18655 (2013).

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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