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# Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


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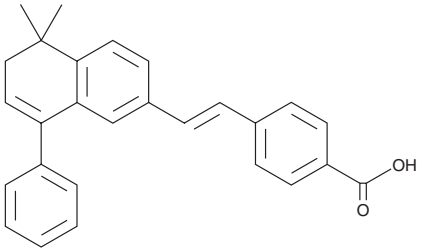
# PRODUCT INFORMATION

## BMS 453

*Item No. 19076*

**CAS Registry No.:** 166977-43-1
**Formal Name:** 4-[(1E)-2-(5,6-dihydro-5,5-dimethyl-8-phenyl-2-naphthalenyl)ethenyl], benzoic acid
**Synonym:** BMS 189453
**MF:** $C_{27}H_{24}O_2$
**FW:** 380.5
**Purity:** ≥98%
**UV/Vis.:** $\lambda_{max}$: 235, 291, 325 nm
**Supplied as:** A crystalline solid
**Storage:** -20°C
**Stability:** As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly




### Laboratory Procedures

BMS 453 is supplied as a crystalline solid. A stock solution may be made by dissolving the BMS 453 in the solvent of choice. BMS 453 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of BMS 453 in DMSO is approximately 10 mg/ml and 5 mg/ml in DMF.

BMS 453 is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

### Description

Nuclear retinoic acid receptors (RARs) are transcriptional regulators with roles in cell proliferation and differentiation. BMS 453 is a synthetic retinoid that acts as an agonist of RARβ and an antagonist of RARα and RARγ.[1] It has been shown to inhibit the proliferation of normal breast cells *via* the induction of TGF-β activity, causing $G_1$ arrest.[2] BMS 453 binding to RARα and RARγ can induce a transrepression of phorbol ester-induced AP-1 activity ($IC_{50}$s = ~0.1 nM in HeLa and MCSF-7 cells), which also correlates with reduced cell proliferation.[1] BM 453 has been used to trigger the differentiation of mouse embryonic stem cells (mES) in a study of RARβ-induced mES cell adipogenesis.[3]

### References

1. Chen, J.-Y., Penco, S., Ostrowski, J., *et al.* RAR-specific agonist/antagonists which dissociate transactivation and AP1 transrepression inhibit anchorage-independent cell proliferation. *EMBO J.* **14(6)**, 1187-1197 (1995).
2. Yang, L., Ostrowski, J., Reczek, P., *et al.* The retinoic acid receptor antagonist, BMS453, inhibits normal breast cell growth by inducing active TGFb and causing cell cycle arrest. *Oncogene* **20(55)**, 8025-8035 (2001).
3. Monteiro, M.C., Wdziekonski, B., Villageois, P., *et al.* Commitment of mouse embryonic stem cells to the adipocyte lineage requires retinoic acid receptor beta and active GSK3. *Stem Cells Dev.* **18(3)**, 457-463 (2009).



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