

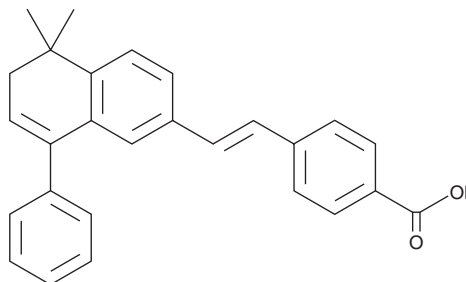
# PRODUCT INFORMATION



## 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<sub>27</sub>H<sub>24</sub>O<sub>2</sub>  
**FW:** 380.5  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 235, 291, 327 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

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

### 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 RAR $\beta$  and an antagonist of RAR $\alpha$  and RAR $\gamma$ .<sup>1</sup> It has been shown to inhibit the proliferation of normal breast cells *via* the induction of TGF- $\beta$  activity, causing G<sub>1</sub> arrest.<sup>2</sup> BMS 453 binding to RAR $\alpha$  and RAR $\gamma$  can induce a transrepression of phorbol ester-induced AP-1 activity (IC<sub>50</sub>s = ~0.1 nM in HeLa and MCSF-7 cells), which also correlates with reduced cell proliferation.<sup>1</sup> BMS 453 has been used to trigger the differentiation of mouse embryonic stem cells (mES) in a study of RAR $\beta$ -induced mES cell adipogenesis.<sup>3</sup>

### 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 TGF $\beta$  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).

#### 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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