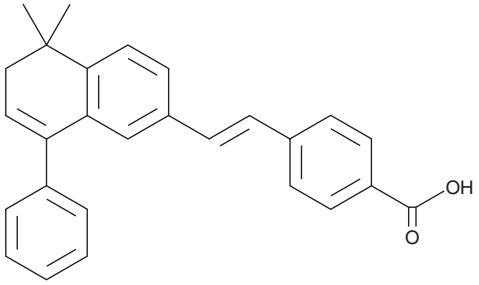
PRODUCT INFORMATION

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.:	λ_{max}: 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 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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