Product Data Sheet

Product Name: BMS 753
Cat. No.: GC14185

Chemical Properties

Cas. No.	215307-86-1		
Chemical Name	4-(1,1,3,3-tetramethyl-2-oxo-2,3-dihydro-1H-indene-5-carboxamido)benzoic acid		
SMILES	CC(C1=C(C(C)2C)C=C(C(NC3=CC=C(C(O)=O)C=C3)=O)C=C1)(C2=O)C		
Formula	$C_{21}H_{21}NO_4$	M.Wt	351.4
Solubility	<35.14mg/ml in ethanol; <35.14mg/ml in DMSO	Storage	Store at RT
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	BMS 753		

Background

Ki : 2 nM for RARα

Three retinoic acid receptors (RARα, RARβ and RARγ and three retinoid X receptors, members of the nuclear receptor (NR) superfamily, mediate the biological effects of retinoic acids (all-tratis and 9-cis retinoic acids; t-RA and 9c-RA) upon development, cell differentiation and proliferation, and homeostasis. BMS 753 is identified as a RARα-selective agonist.

In vitro: Increasing concentrations of BMS 753 resulted in low levels of RARβ2 transcripts in WT cells, even at the highest concentration, while 100 nM BMS 753 efficiently induced RARβ2 transcripts in RARγ-/- cells. In contrast, no activation was seen in RARα-/- cells up to 100 nM BMS 753, demonstrating that it is specific for RARα [1].

In vivo: To investigate whether similar RARα-dependent events in Sertoli cells (SC) also operate in the reinitiation of spermatogenesis in a vitamin A-deficient (VAD) testis,

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Rbp4-null adult males fed a VAD diet for 14 wk were treated with BMS 753 or with its vehicle only. Interestingly, spermatogenesis did not initiate upon administration of BMS 753 to VAD Rbp4-null mutants; only SC and spermatogonia were present in their seminiferous epithelium, as in the vehicle-treated situation [2].

Clinical trial: Up to now, BMS 753 is still in the preclinical development stage.

Reference:
[1] RESHMA TANEJA, BIDYUT ROY, JEAN-Luc PLASSAT, CHRIS F. ZuSIt, JACEK OSTROWSKIS, PETER R. RECZEKS, AND PIERRE CHAMBON. Cell-type and promoter-context dependent retinoic acid receptor (RAR) redundancies for RARβ2 and Hoxa-1 activation in F9 and P19 cells can be artefactually generated by gene knockouts. Proc. Natl. Acad. Sci. USA Vol. 93, pp. 6197-6202, June 1996.
[2] Raverdeau M, Gely-Pernot A, Féret B, Dennefeld C, Benoit G, Davidson I, Chambon P, Mark M, Ghyselinck NB. Retinoic acid induces Sertoli cell paracrine signals for spermatogonia differentiation but cell autonomously drives spermatocyte meiosis. Proc Natl Acad Sci U S A. 2012 Oct 9;109(41):16582-7.

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