Product Data Sheet

Product Name: GW841819X
Cat. No.: GC16611

Chemical Properties

Cas. No.			
Chemical Name	(R)-benzyl (6-(4-chlorophenyl)-8-methoxy-1-methyl-4H-benzo[f][1,2,4]triazolo[4,3-a][1,4]diazepin-4-yl)carbamate		
SMILES	ClC(C=C1)=CC=C1C2=N[C@@H](NC(OCC3=CC=CC=C3)=O)C4=NN=C(C)N4C5=CC=C(OC)C=C52		
Formula	$C_{26}H_{22}ClN_5O_3$	M.Wt	487.94
Solubility	Soluble in DMSO	Storage	Store at -20°C
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	GW841819X		

Background

GW841819X is an analogue of (+)-JQ1 and a novel inhibitor of BET bromodomains. GW841819X was a single enantiomer but of undefined chirality at the 4-position of the benzodiazepine ring [3].

GW841819X and JQ1 were recently discovered that bind to the acetyl-lysine binding pocket of BET bromodomains with Kd ranges from 50 to 370 nM [1]. GW841819X bounded to both the individual BD1 and BD2 domains with affinities of 46 and 52.5 nM, respectively. GW841819X-Brd3 interaction was estimated to be around 70 nM [4].

GW841819X displayed activity in vivo against NUT-midline carcinoma, multiple myeloma, mixed-lineage leukemia, and acute myeloid leukemia [1]. It also potent induced the ApoA1 reporter gene with an EC50 of 440 nM. It had very little effect on LDL-R luciferase activity at the concentrations at which it induces ApoA1 expression,

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suggesting that the effect is indeed specific [3]. GW841819X competed directly with GATA1 site for BD1 binding and also specifically blocked the interaction between Brd3 and acetylated GATA1 [4]. Recent findings reported that GW841819X are chose as an interest compound to further develop into potential drugs against diseases including cancer, HIV infection and heart disease [2].

References:

1. Baud MG, Lin-Shiao E, Cardote T et al. Chemical biology. A bump-and-hole approach to engineer controlled selectivity of BET bromodomain chemical probes. Science. 2014 Oct 31;346(6209):638-41.
2. Floyd SR, Pacold ME, Huang Q et al. The bromodomain protein Brd4 insulates chromatin from DNA damage signalling. Nature. 2013 Jun 13;498(7453):246-50.
3. Chung CW, Coste H, White JH et al. Discovery and characterization of small molecule inhibitors of the BET family bromodomains. J Med Chem. 2011 Jun 9;54(11):3827-38.
4. Gamsjaeger R, Webb SR, Lamonica JM et al. Structural basis and specificity of acetylated transcription factor GATA1 recognition by BET family bromodomain protein Brd3. Mol Cell Biol. 2011 Jul;31(13):2632-40.