Product Data Sheet

Product Name: MMP-2/MMP-9 Inhibitor I
Cat. No.: GC11038

Chemical Properties

Cas. No.	193807-58-8		
Chemical Name	N-([1,1'-biphenyl]-4-ylsulfonyl)-D-phenylalanine		
SMILES	O=S(C(C=C1)=CC=C1C2=CC=CC=C2)(N[C@@H](C(O)=O)CC3=CC=CC=C3)=O		
Formula	$C_{21}H_{19}NO_4S$	M.Wt	381.4
Solubility	≤25mM in DMSO	Storage	Store at 4°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	MMP-2/MMP-9 Inhibitor I		

Background

IC50: 310 and 240 nM for MMP-2 and MMP-9, respectively

MMP-2/MMP-9 Inhibitor I is a potent inhibitor of matrix metalloproteinase-2 (MMP-2) and MMP-9.

Matrix metalloproteinase (MMP), a typical metalloproteinase, requires zinc ion at its active sites. As many as 18 kinds of MMP have been identified and cloned and are collectively called the MMP family.

In vitro: MMP-2/MMP-9 inhibitor I was identified as a potent inhibitor of matrix metalloproteinase-2 (MMP-2) and MMP-9 with IC50 values of 310 and 240 nM, respectively. MMP-2/MMP-9 inhibitor I acted by binding zinc at the active site of these MMPs. MMP-2/MMP-9 inhibitor I was found to be able to block MMP-2/MMP-9-dependent invasion in cell culture model [1].

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In vivo: Both hydroxamic acid and carboxylic acid analogs of MMP-2/MMP-9 inhibitor I were evaluated for their inhibitory activities in animal cancer models. Results showed that lung colonization of Lewis lung carcinoma cells was suppressed by these inhibitors significantly. In addition, antitumor activity was also observed in the human lung cancer model. Ma44 cells growed as a solid tumor on the peritoneum after being implanted ip, and mice bearing Ma44 eventually died within 3 to 4 weeks. Daily oral administration of compound 5l led to prolonged survival of Ma44-bearing mice [1].

Clinical trial: So far, no clinical study has been conducted.

Reference:
[1] Tamura, Y. ,Watamane, F.,Nakatani, T., et al. Highly selective and orally active inhibitors of type IV collagenase (MMP-9 and MMP-2): N-sulfonylamino acid derivatives. J. Med. Chem. 41(4), 640-649 (1998).

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