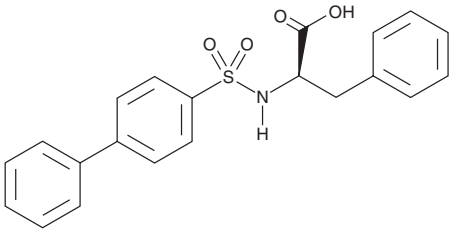
PRODUCT INFORMATION

MMP-2/MMP-9 Inhibitor I

Item No. 20315

CAS Registry No.: 193807-58-8
Formal Name: N-([1,1'-biphenyl]-4-ylsulfonyl)-D-phenylalanine
Synonym: Matrix Metalloproteinase-2/Matrix Metalloproteinase-9 Inhibitor I
MF: $C_{21}H_{19}NO_4S$
FW: 381.4
Purity: ≥99%
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

MMP-2/MMP-9 inhibitor I is supplied as a solid. A stock solution may be made by dissolving the MMP-2/MMP-9 inhibitor I in the solvent of choice. MMP-2/MMP-9 inhibitor I is soluble in DMSO to 25 mM.

Description

MMP-2/MMP-9 inhibitor I is a potent inhibitor of matrix metalloproteinase-2 (MMP-2) and MMP-9 (IC_{50}s = 310 and 240 nM, respectively).[1] It acts by binding zinc at the active site of these MMPs. MMP-2/MMP-9 inhibitor I is active *in vivo* as well as *in vitro* and blocks MMP-2/MMP-9-dependent invasion, tumor growth, and metastasis in both cell culture and mouse tumor models.[1] This compound has been used to elucidate the roles of MMP-2 and MMP-9 in diverse systems, including mammary epithelial cell transformation, neuronal dysfunction, lymphocyte recruitment, and progressive hereditary kidney disease.[2-5]

References

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).
2. Dechow, T.B., Pedranzini, L., Leitch, A., *et al.* Requirement of matrix metalloproteinase-9 for the transformation of human mammary epithelial cells by Stat3-C. *Proc. Natl. Acad. Sci. USA* **101(29)**, 10602-10607 (2004).
3. Lim, K., Hyun, Y.-M., Lambert-Emo, K., *et al.* Neutrophil trails guide influenza-specific $CD8^+$ T cells in the airways. *Science* **349(6252)**, aaa4352 (2015).
4. Mizoguchi, H., Yamada, K., and Nabeshima, T. Matrix metalloproteinases contribute to neuronal dysfunction in animal models of drug dependence, Alzheimer's disease, and Epilepsy. *Biochem. Res. Int.* **2011:681385**, (2011).
5. Zeisberg, M., Khurana, M., Rao, V.H., *et al.* Stage-specific action of matrix metalloproteinases influences progressive hereditary kidney disease. *PLoS Med.* **3(4)**, 535-546 (2006).

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