

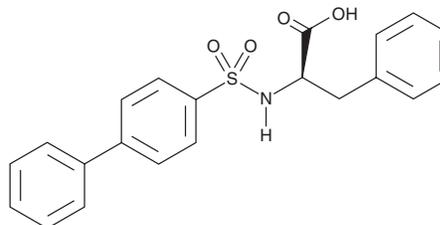
# PRODUCT INFORMATION



## 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<sub>21</sub>H<sub>19</sub>NO<sub>4</sub>S  
**FW:** 381.4  
**Purity:** ≥99%  
**Supplied as:** A 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

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<sub>50</sub>s = 310 and 240 nM, respectively).<sup>1</sup> 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.<sup>1</sup> 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.<sup>2-5</sup>

### 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<sup>+</sup> 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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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