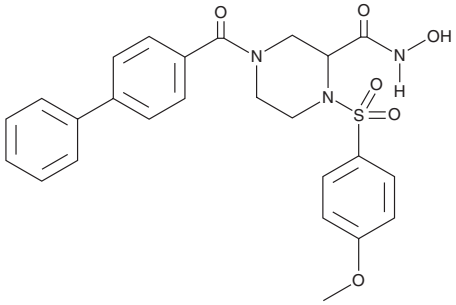
PRODUCT INFORMATION

MMP-9/MMP-13 Inhibitor I

Item No. 21265

CAS Registry No.: 204140-01-2
Formal Name: 4-([1,1'-biphenyl]-4-ylcarbonyl)-N-hydroxy-1-[(4-methoxyphenyl)sulfonyl]-2-piperazinecarboxamide
Synonym: Matrix Metalloproteinase-9/Matrix Metalloproteinase-13 Inhibitor I
MF: $C_{25}H_{25}N_3O_6S$
FW: 495.6
Purity: ≥98%
UV/Vis.: λ_{max}: 248 nm
Supplied as: A crystalline 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-9/MMP-13 inhibitor I is supplied as a crystalline solid. A stock solution may be made by dissolving the MMP-9/MMP-13 inhibitor I in the solvent of choice, which should be purged with an inert gas. MMP-9/MMP-13 inhibitor I is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of MMP-9/MMP-13 inhibitor I in these solvents is approximately 25 and 30 mg/ml, respectively.

Description

MMP-9/MMP-13 inhibitor I is a cell-permeable inhibitor of matrix metalloproteinases (MMPs) that most potently inhibits MMP-9 and MMP-13 (IC_{50}s = 0.9 nM for both).[1] It less effectively inhibits MMP-1, MMP-3, and MMP-7 (IC_{50}s = 43, 23, and 920 nM, respectively).[1] MMP-9/MMP-13 inhibitor I has been used to elucidate the roles of MMPs in biological systems, including tumor cell invasion and pathogenesis of *P. falciparum*.[2-4]

References

1. Cheng, M., De, B., Pikul, S., *et al.* Design and synthesis of piperazine-based matrix metalloproteinase inhibitors. *J. Med. Chem.* **43(3)**, 369-380 (2000).
2. Prato, M., Giribaldi, G., Polimeni, M., *et al.* Phagocytosis of hemozoin enhances matrix metalloproteinase-9 activity and TNF-α production in human monocytes: Role of matrix metalloproteinases in the pathogenesis of falciparum malaria. *J. Immunol.* **175(10)**, 6436-6442 (2005).
3. Storz, P., Döppler, H., Copland, J.A., *et al.* FOXO3a promotes tumor cell invasion through the induction of matrix metalloproteinases. *Mol. Cell. Biol.* **29(18)**, 4906-4917 (2009).
4. Swamydas, M., Ricci, K., Rego, S.L., *et al.* Mesenchymal stem cell-derived CCL-9 and CCL-5 promote mammary tumor cell invasion and the activation of matrix metalloproteinases. *Cell Adh. Migr.* **7(3)**, 315-324 (2013).

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