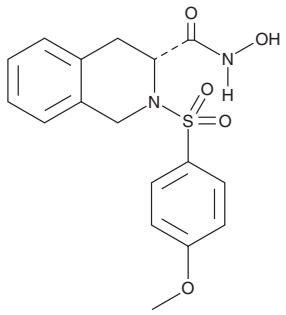
PRODUCT INFORMATION

MMP-8 Inhibitor I

Item No. 21852

CAS Registry No.:	236403-25-1
Formal Name:	(3R)-1,2,3,4-tetrahydro-N-hydroxy-2-[(4-methoxyphenyl)sulfonyl]-3-isoquinolinecarboxamide
Synonym:	Matrix Metalloproteinase-8 Inhibitor I
MF:	$C_{17}H_{18}N_2O_5S$
FW:	362.4
Purity:	≥95%
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-8 Inhibitor I is supplied as a solid. A stock solution may be made by dissolving the MMP-8 inhibitor I in the solvent of choice, which should be purged with an inert gas. MMP-8 Inhibitor I is soluble in the organic solvent DMSO at a concentration of approximately 200 mg/ml.

Description

MMP-8 Inhibitor I is a selective inhibitor of the neutrophil collagenase matrix metalloproteinase-8 (MMP-8) with an IC_{50} value of 4 nM.[1] This inhibitor does not target the activities of other MMPs *in vitro*.[2,3] MMP-8 cleaves interstitial collagens and has exhibited activity in atherosclerotic plaques, angiogenesis, and stem cell mobilization.[4] Additionally, MMP-8 expression is observed in normal mammary epithelial cells, whereas a loss of expression is observed in human ductal carcinoma *in situ* and the deletion of MMP-8 accelerates tumor onset in a mouse model of aggressive breast cancer.[5,6]

References

1. Matter, H., Schudok, M., Schwab, W., *et al.* Tetrahydroisoquinoline-3-carboxylate based matrix-metalloproteinase inhibitors: Design, synthesis and structure-activity relationship. *Bioorg. Med. Chem.* **10(11)**, 3529-3544 (2002).
2. McNulty, A.L., Weinberg, J.B., and Guilak, F. Inhibition of matrix metalloproteinases enhances *in vitro* repair of the meniscus. *Clin. Orthop. Relat. Res.* **467(6)**, 1557-1567 (2009).
3. Prager, G.W., Breuss, J.M., Steurer, S., *et al.* Vascular endothelial growth factor (VEGF) induces rapid prourokinase (pro-uPA) activation on the surface of endothelial cells. *Blood* **103(3)**, 955-962 (2004).
4. Chen, Q., Jin, M., Yang, F., *et al.* Matrix metalloproteinases: Inflammatory regulators of cell behaviors in vascular formation and remodeling. *Mediators Inflamm.* 928315 (2013).
5. Decock, J., Hendricks, W., Thirkettle, S., *et al.* Pleiotropic functions of the tumor- and metastasis-suppressing matrix metalloproteinase-8 in mammary cancer in MMTV-PyMT transgenic mice. *Breast Cancer Res.* **17(1)**, 38 (2015).
6. Sarper, M., Allen, M.D., Gomm, J., *et al.* Loss of MMP-8 in ductal carcinoma *in situ* (DCIS)-associated myoepithelial cells contributes to tumour promotion through altered adhesive and proteolytic function. *Breast Cancer Res.* **19(1)**, 33 (2017).

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