

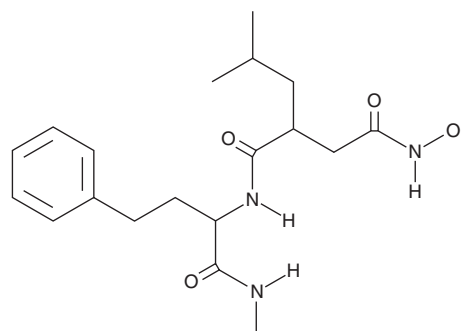
# PRODUCT INFORMATION



## MMP Inhibitor III

Item No. 45494

**CAS Registry No.:** 927827-98-3  
**Formal Name:** N<sup>4</sup>-hydroxy-N<sup>1</sup>-[1-[(methylamino)carbonyl]-3-phenylpropyl]-2-(2-methylpropyl)-butanediamide  
**Synonym:** Matrix Metalloproteinase Inhibitor III  
**MF:** C<sub>19</sub>H<sub>29</sub>N<sub>3</sub>O<sub>4</sub>  
**FW:** 363.5  
**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 inhibitor III is supplied as a solid. A stock solution may be made by dissolving the MMP inhibitor III in water. MMP inhibitor III is slightly soluble (0.1-1 mg/ml) in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

### Description

MMP inhibitor III is a broad-spectrum inhibitor of matrix metalloproteinases (MMPs; IC<sub>50</sub>s = 4.1, 3.6, 8.2, and 6.4 nM for MMP-1, MMP-2, MMP-12, and MMP-13, respectively).<sup>1</sup> It also inhibits MMP-3 with an IC<sub>50</sub> value of 134 nM.<sup>2</sup> MMP inhibitor III reduces ionomycin-induced shedding of CD146 in human microvascular lung endothelial cells (HMVEC-Ls; IC<sub>50</sub> = 134 nM).<sup>2</sup> It also reduces endometriosis-like lesion formation in chicken chorioallantoic membranes (CAMs) exposed to human endometrium.<sup>3</sup> MMP inhibitor III has commonly been used alone and in combination with other MMP inhibitors to evaluate the contribution of MMPs to various cellular processes.<sup>2,4,5</sup>

### References

1. Wang, L., Li, X., Zhang, S., *et al.* Natural products as a gold mine for selective matrix metalloproteinases inhibitors. *Bioorg. Med. Chem.* **20(13)**, 4164-4171 (2012).
2. Boneberg, E.-M., Illges, H., Legler, D.F., *et al.* Soluble CD146 is generated by ectodomain shedding of membrane CD146 in a calcium-induced, matrix metalloprotease-dependent process. *Microvasc. Res.* **78(3)**, 325-331 (2009).
3. Nap, A.W., Dunselman, G.A.J., de Goeij, A.F.M., *et al.* Inhibiting MMP activity prevents the development of endometriosis in the chicken chorioallantoic membrane model. *Hum. Reprod.* **19(10)**, 2180-2187 (2004).
4. Lee, Y.S., Choi, H., Cho, H.-R., *et al.* Downregulation of NKG2DLs by TGF-β in human lung cancer cells. *BMC Immunol.* **22(1)**, 44 (2021).
5. Covington, M.D., Burghardt, R.C., and Parrish, A.R. Ischemia-induced cleavage of cadherins in NRK cells requires MT1-MMP (MMP-14). *Am. J. Physiol. Renal Physiol.* **290(1)**, F43-51 (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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 05/12/2026

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM