

# PRODUCT INFORMATION

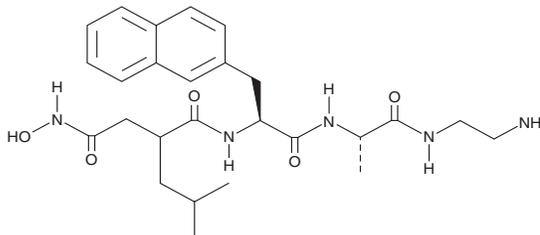


## TAPI-1

Item No. 18505

**CAS Registry No.:** 171235-71-5  
**Formal Name:** N-[2-[2-(hydroxyamino)-2-oxoethyl]-4-methyl-1-oxopentyl]-3-(2-naphthalenyl)-L-alanyl-N-(2-aminoethyl)-(9Cl)-L-alaninamide

**Synonym:** TAPI  
**MF:** C<sub>26</sub>H<sub>37</sub>N<sub>5</sub>O<sub>5</sub>  
**FW:** 499.6  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 224, 282 nm  
**Supplied as:** A crystalline 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

TAPI-1 is supplied as a crystalline solid. A stock solution may be made by dissolving the TAPI-1 in the solvent of choice, which should be purged with an inert gas. TAPI-1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of TAPI-1 in these solvents is approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of TAPI-1 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of TAPI-1 in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

TNF-α converting enzyme (TACE, also known as ADAM17) is a zinc metalloprotease that cleaves the membrane-bound precursor of TNF-α to give the mature soluble form of TNF-α.<sup>1,2</sup> It also mediates the proteolytic release of several other cell-surface proteins, including TNF-α receptors (TNFRs). TAPI-1, known in the earlier literature as just TAPI, is an inhibitor of TACE that inhibits the cleavage of TNF-α, TNFR1 (p60), and TNFR2 (p80) with IC<sub>50</sub> values ranging from 5-100 μM.<sup>1,3,4</sup> It also blocks the shedding of other TACE-dependent proteins, including IL-6R and Klotho, and may inhibit metalloproteases other than TACE.<sup>2,5,6</sup> TAPI-1 differs from TAPI-0 (Item No. 14694), structurally, by the presence of an aminoethyl addition at the alanyl group, and is generally more stable in tissue culture and *in vivo*.

### References

1. Mohler, K.M., Sleath, P.R., Fitzner, J.N., *et al.* *Nature* **370(6486)**, 218-220 (1994).
2. Müllberg, J., Durie, F.H., Otten-Evans, C., *et al.* *J. Immunol.* **155(11)**, 5198-5205 (1995).
3. Crowe, P.D., Walter, B.N., Mohler, K.M., *et al.* *A J. Exp. Med.* **181(3)**, 1502-1210 (1995).
4. Hooper, N.M., Karran, E.H., and Turner, A.J. *Biochem. J.* **321(2)**, 265-279 (1997).
5. Chen, C.-D., Podvin, S., Gillespie, E., *et al.* *Proc. Natl. Acad. Sci. USA* **104(50)**, 19796-19801 (2007).
6. Yamamoto, K., Miyazaki, K., and Higashi, S. *FEBS J.* **281(15)**, 3346-3356 (2014).

#### 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.

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#### 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