

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Thimet Oligopeptidase/THOP1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 25% cross-reactivity with recombinant human Neurolysin is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 455710
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Thimet Oligopeptidase/THOP1 Lys2-Cys689 Accession # P52888
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Human Thimet Oligopeptidase/THOP1 (Catalog # 3439-ZN)
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Thimet Oligopeptidase/THOP1 (Catalog # 3439-ZN), see our available Western blot detection antibodies

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Thimet Oligopeptidase/THOP1, also known as endopeptidase EC 3.4.24.15 (EP24.15), is a zinc peptidase of the M3 family that also includes neurolysin/EC 3.4.24.16 and mitochondrial intermediate peptidase (1). Widely expressed by mammalian tissues and reported to present in different subcellular locations, THOP1 is primarily a cytoplasmic enzyme. It is capable of hydrolyzing a number of bioactive peptides and peptides released by the proteasome, limiting antigenic presentation by MHC class I molecules (1-3). THOP1 also interacts with angiotensin II type I receptor and bradykinin B2 receptor (4). The amino acid sequence of human THOP1 is 90% and 86% identical to that of dog/mouse and rat, respectively.

References:

1. Barrett, A.J. and J.-M. Chen (2004) in *Handbook of Proteolytic Enzymes*. Barrett, A.J. *et al.* eds. p. 352, Elsevier Academic Press, San Diego.
2. Ray, K. *et al.* (2004) *J. Biol. Chem.* **279**:20480.
3. Saric, T. *et al.* (2004) *J. Biol. Chem.* **279**:46723.
4. Shivakumar, B.R. *et al.* (2005) *Cell Biochem. Funct.* **23**:195.