

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Meprin α Subunit/MEP1A in direct ELISAs and Western blots. In direct ELISAs, approximately 10% cross-reactivity with recombinant mouse MEP1A and recombinant human MEP1B is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Meprin α Subunit/MEP1A Val22-Gln601 Accession # AAA21338
Formulation	Lyophilized from a 0.2 μ m 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 μ m 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	0.1 μ g/mL	Recombinant Human Meprin α Subunit/MEP1A (Catalog # 3220-ZN)
Immunohistochemistry	5-15 μ g/mL	Immersion fixed paraffin-embedded sections of human intestine (jejunum)
Immunoprecipitation	25 μ g/mL	Conditioned cell culture medium spiked with Recombinant Human Meprin α Subunit/MEP1A (Catalog # 3220-ZN), see our available Western blot detection antibodies
Intracellular Staining by Flow Cytometry	0.25 μ g/10 ⁶ cells	HEK293 human embryonic kidney cell line fixed with paraformaldehyde and permeabilized with saponin
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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

Meprins are multimeric proteases composed of α and β subunits, which are members of the astacin family of zinc endopeptidases (1, 2). Both subunits form disulfide-linked homo- or heterooligomers, which are also referred to as Meprin A (composed of α subunits with or without β subunits) and Meprin B (composed of β subunits only) (3). Although the two subunits share 42% identity in their amino acid sequence, they differ significantly in their oligomeric structure, post-translational processing and subsequently cellular location, and substrate and peptide bond specificity (4). The 746 amino acid sequence of human meprin α subunit precursor consists of a signal peptide (residues 1 to 21), a pro region (residues 22 to 65), and a mature chain (residues 66 to 746) containing following domains, catalytic (residues 62 to 263), MAM (residues 264 to 433), MATH (residues 434 to 593), EGF-like (residues 670 to 710), transmembrane (residues 713 to 740), and cytoplasmic (residues 741 to 746). The pro enzyme terminating at residue 601 was expressed and the secreted protein purified from conditioned medium. The molecular masses of rhMEP1A are similar to those observed for the α subunit of rat Meprin A (5).

References:

1. Bond, J.S. and Beynon, R.J. (1995) *Protein Sci.* **4**:1247.
2. Stocker, W. *et al.* (1995) *Protein Sci.* **4**:823.
3. Bertenshaw, G.P. *et al.* (2001) *J. Biol. Chem.* **276**:13248.
4. Ishmael, F.T. *et al.* (2005) *J. Biol. Chem.* **280**:13895.
5. Bertenshaw, G.P. *et al.* (2003) *J. Biol. Chem.* **278**:2522.