

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Carnosine Dipeptidase 1/CNDP1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human CNDP2 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 352216
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Carnosine Dipeptidase 1/CNDP1 Pro28-His507 Accession # Q96KN2
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 as a 0.2 µm filtered solution in PBS.

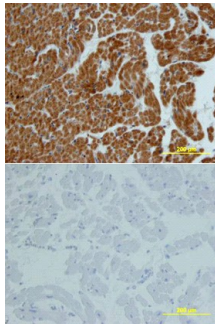
APPLICATIONS

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 Carnosine Dipeptidase 1/CNDP1 (Catalog # 2489-ZN)
Immunocytochemistry	8-25 µg/mL	See Below
Immunohistochemistry	8-25 µg/mL	See Below
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Carnosine Dipeptidase 1/CNDP1 (Catalog # 2489-ZN), see our available Western blot detection antibodies

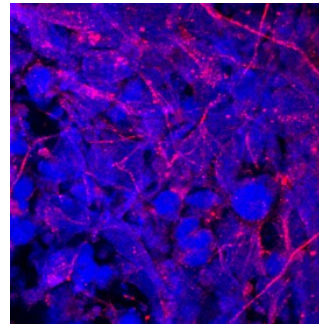
DATA

Immunohistochemistry



Carnosine Dipeptidase 1/CNDP1 in Human Heart. Carnosine Dipeptidase 1/CNDP1 was detected in immersion fixed paraffin-embedded sections of human heart using Mouse Anti-Human Carnosine Dipeptidase 1/CNDP1 Monoclonal Antibody (Catalog # MAB2489) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling if primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

Immunocytochemistry



Carnosine Dipeptidase 1/CNDP1 in BG01V Human Embryonic Stem Cells. Carnosine Dipeptidase 1/CNDP1 was detected in immersion fixed BG01V human embryonic stem cells differentiated into neurons using Mouse Anti-Human Carnosine Dipeptidase 1/CNDP1 Monoclonal Antibody (Catalog # MAB2489) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Stem Cells on Coverslips](#).

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

The human CNDP1 gene encodes carnosine dipeptidase 1, a member of the M20 family of metalloproteases (1, 2). Also known as X-His dipeptidase, glutamate carboxypeptidase-like protein 2 (CPGL-2) or carnosinase 1 (CN1), CNDP1 is a secreted dipeptidase with a narrow specificity for Xaa-His dipeptides including those with Xaa = β-Ala (carnosine) and Xaa = γ-aminobutyric acid (homocarnosine), two naturally occurring dipeptides with potential neuroprotective and neurotransmitter functions in the brain. In comparison, a closely related protein known as CNDP2, CPGL or CN2, is a cytosolic nonspecific dipeptidase.

References:

1. Teufel, M. *et al.* (2004) *J. Biol. Chem.* **278**:6521.
2. Bauer, K. (2004) in *Handbook of Proteolytic Enzymes* (ed. Barrett, *et al.*) p. 1022, Academic Press, San Diego.