

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human and mouse in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human Tmp21/p23 Ile32-Arg185 Accession # P49755
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.

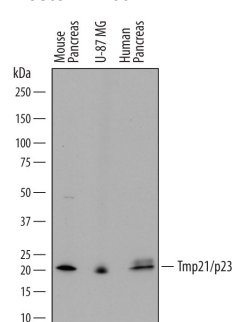
APPLICATIONS

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	0.5 µg/mL	See Below
Immunohistochemistry	1-15 µg/mL	See Below
Knockout Validated	Tmp21/p23 is specifically detected in HEK293T human embryonic kidney parental cell line but is not detectable in Tmp21/p23 knockout HEK293T cell line.	

DATA

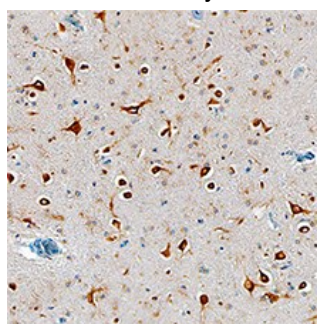
Western Blot



Detection of Human and Mouse Tmp21/p23 by Western Blot.

Western blot shows lysates of mouse pancreas tissue, U-87 MG human glioblastoma/astrocytoma cell line, and human pancreas tissue. PVDF membrane was probed with 0.5 µg/mL of Sheep Anti-Human/Mouse Tmp21/p23 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7630) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Tmp21/p23 at approximately 21 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

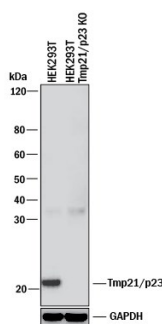
Immunohistochemistry



Tmp21/p23 in Human Alzheimer's Brain.

Tmp21/p23 was detected in immersion fixed paraffin-embedded sections of human Alzheimer's brain using Sheep Anti-Human/Mouse Tmp21/p23 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7630) at 1 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in glial cells. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

Knockout Validated



Western Blot Shows Human Tmp21/p23 Specificity by Using Knockout Cell Line.

Western blot shows lysates of HEK293T human embryonic kidney parental cell line and Tmp21/p23 knockout HEK293T cell line (KO). PVDF membrane was probed with 0.5 µg/mL of Sheep Anti-Human/Mouse Tmp21/p23 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7630) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Tmp21/p23 at approximately 23 kDa (as indicated) in the parental HEK293T cell line, but is not detectable in knockout HEK293T cell line. GAPDH (Catalog # AF5718) is shown as a loading control. This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <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

Tmp21 (Transmembrane protein 21 also TMED-10, Transmembrane emp24 Domain-containing Protein 10, p2451 and p23) is a 21-23 kDa member of the EMP [endosome membrane protein] 24 /GP25L family of cargo molecules. It is ubiquitously expressed, being found associated with the ER-Golgi complex. Molecules destined for secretion are folded/processed in the ER, transported out of the ER via COP-II coated vesicles, united with other molecules in similar vesicles to form an ERGIC/ER-Golgi Intermediate Compartment, and finally delivered to the Golgi (or returned to the ER) via new (presumably COP-I) coated vesicles for terminal maturation. Tmp21 is considered part of both the COP-II and COP-I oligomer complex, the latter that arises from the ERGIC and both stabilizes the ER and allows for the selection of specific molecules targeted for secretion. It also is known to associate with the presenilin complex in the plasma membrane and downregulate γ -secretase activity. This impacts A β production but not AICD generation. Mature human Tmp21 is a 188 amino acid (aa) type I transmembrane protein. It contains a 154 aa luminal region (aa 32-185) that shows a membrane interaction GOLD (Golgi Dynamics) domain (aa 41-193), and a short 13 aa cytoplasmic tail (aa 207-219) that binds to COP vesicle coat complexes. Exists as both a monomer and homodimer. Over aa 32-185, human Tmp21 shares 97% aa sequence identity with mouse Tmp21.