Qty: 100 µg/400 µL

Rabbit anti-MUPP1

Catalog No. 42-2700

Lot No.

Rabbit anti-MUPP1

FORM

This polyclonal antibody is supplied as a 400 µL aliquot at a concentration of 0.25 mg/mL in phosphate buffered saline (Ph 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.547

IMMUNOGEN

Synthetic peptide derived from the C-terminal region of mouse MUPP1, which differs from rat by one conservative amino acid

SPECIFICITY

This antibody is specific for MUPP1 (multi PDZ domain protein 1, MPDZ). On Western blots, it identifies the target band at ~230 kDa.

REACTIVITY

Reactivity has been confirmed with mouse MUPP1-transfected rat OLN-93 cells by Western blotting and with frozen mouse sciatic nerve, localized to Schmidt-Lanterman incisures, by immunohistochemistry. Based on amino acid sequence homology, reactivity with rat is also expected.

Sample	Western Blotting	Immuno-histochemistry (frozen)*
Mouse	+++	+++
Rat	ND	ND
Immunogen	N/A	N/A

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

Western Blotting: 0.5–1.0 µg/mL
Immunohistochemistry (frozen)*: 1–3 µg/mL

* For IHC, mice were perfused transcardially with 3 mL pre-fixative (50 mM phosphate buffer, 0.1% sodium nitrite, 1 unit/mL heparin), followed by 40 mL fixative (0.16 M sodium phosphate buffer, pH 7.6, 0.2% picric acid, and 1-, 2-, or 4% paraformaldehyde), and perfusion with 10 mL sucrose wash (10% sucrose in 25 mM sodium phosphate buffer, pH 7.4. Tissues were then stored in cryoprotectant (10% sucrose, 25 mM phosphate buffer, pH 7.4, 0.04% sodium azide) for a minimum of 24 hours prior to sectioning.

STORAGE

Store at 2-8°C for up to one month. Store at –20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

BACKGROUND

MUPP1 (multi PDZ domain protein 1, MPDZ) was discovered as an interacting partner with the 5-HT2C receptor[1], and was found to co-localize with 5-HT2A or 5-HT2C receptors in all regions of the mouse brain, including the choroid plexus.[2] MUPP1 contains 13 PDZ domains but no apparent catalytic domain. MUPP1 is concentrated in tight junctions of polarized epithelial cells and binds to claudin-1 and junctional adhesion molecule (JAM).[3] MUPP1 may therefore function as a multivalent scaffold protein that recruits various proteins to tight junctions. MUPP1 also interacts with claudin-8 and may play a role in tight junction barrier function.[4]

In addition to being a component of epithelial tight junctions, MUPP1 is also present in myelinating Schwann cells.[5] In these cells, the myelin membrane is divided into compact and noncompact myelin. Noncompact myelin is found in three separate structures called paranodal loops, Schmidt-Lanterman incisures and the inner and outer mesaxons. MUPP1 is expressed only in the Schmidt-Lanterman incisures, where it interacts with claudin-5.[5] MUPP1 interacts with coxsackievirus and adenovirus receptor (CAR); CAR may be involved in the recruitment of MUPP1 to the tight junction.[6] Two different viral oncoproteins, E4-ORF1 of adenovirus and E6 of human papillomavirus, have been shown to specifically bind to the PDZ domains of MUPP1[7], leading to sequestration of MUPP1 within the cytoplasm of cells by E4-ORF1 and to degradation of MUPP1 by E6. MUPP-1 and other tight junction plaque molecules levels are significantly lower in patients with metastatic breast cancer[8] and are associated with poor patient prognosis. Thus MUPP1 may play a role in controlling cellular proliferation.

REFERENCES

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4. Jeansonne B, et al. *Cell Mol Biol* 49(1): 13-21, 2003.
5. Poliak S, et al. *J Cell Biol* 159(2):361-372, 2002.
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RELATED PRODUCTS

Product	*Conjugate*	*Cat. No.*
Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

Conjugate	ZyMAX™ Goat x Rabbit IgG (H+L)	ZyMAX™ Goat x Mouse IgG (H+L)
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy™3	81-6115	81-6515
Cy™5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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