



Qty: 100µg/400 µL

Rabbit anti-gp96

For Research Use Only

Catalog No. 36-2600

Lot No.

Rabbit anti-gp96

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.287

IMMUNOGEN

Synthetic peptide derived from the N-terminal region of the mouse and human gp96 protein, also known as glucose-regulated protein-94 (GRP94), endoplasm, endoplasmic reticulum protein-99 (ERP-99), or polymorphic tumor rejection antigen-1.

SPECIFICITY

This antibody reacts with the mouse, rat, and human gp96 proteins. On Western blots, it identifies a single band at ~96 kDa.

REACTIVITY

Reactivity has been confirmed with mouse and rat brain homogenates by Western blotting and immunoprecipitation, and with formalin-fixed, paraffin-embedded (FFPE) human tonsil tissue by immunohistochemistry. Based on 100% amino acid sequence identity at the immunogen sequence, reactivity with pig, cow, and dog gp96, as well as with chicken Hsp108, is expected.

Sample	Western Blotting	Immuno-precipitation	ELISA	Immuno-histochemistry (paraffin)*
Mouse	+++	++	ND	ND
Rat	+++	ND	ND	ND
Human	ND	ND	ND	+++
Immunogen	N/A	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.

ELISA: 0.1-1.0 µg/mL
Western Blotting: 1-3 µg/mL
Immunoprecipitation: 1-5 µg/mL
Immunohistochemistry*: 0.5 – 1.0 µg/mL

* For immunohistochemistry with formalin-fixed, paraffin-embedded (FFPE) tissues, heat induced epitope retrieval (HIER) with EDTA, pH 8.0, is required prior to staining.

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)

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PI362600

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BACKGROUND

The tumor rejection antigen (gp96), also known as glucose-regulated protein 94 (GRP94), is a member of the heat shock protein (HSP) family. The gp96 protein is up-regulated by stress conditions such as glucose starvation and heat shock², and its function is regulated through a ligand-dependent conversion from an active to an inactive conformation⁶. gp96 is involved in both innate and adaptive immunity.⁵ A study has shown that a B-cell line deficient in gp96 is unresponsive to microbial stimuli because toll-like receptors (TLRs) are retained intracellularly. However, normal surface levels of TLRs were restored when these cells were transfected with a cDNA encoding gp96.⁴ The tumor rejection antigen can activate the release of nitric oxide by antigen presenting cells (APCs)³ and it also has a relevant role in the regulation of immune responses to pathological cell death.¹

REFERENCES

1. Berwin B, et al. *J Biol Chem* 69(4):240-249, 1996.
2. Little E, et al. *Crit Rev Eukaryot Gene Exp* 4(1):1-18, 1994.
3. Panjwani NN, et al. *J Immunol* 168(6):2997-3003, 2002.
4. Randow F, et al. *J Immunol* 163(8):4133-4139, 2001.
5. Srivastava PK et al. *Immunity* 8(6):657-665, 1998.
6. Wassenberg JJ, et al. *J Biol Chem* 275(30):22806-22814, 2000.

RELATED PRODUCTS

Product	Clone/PAD*	Cat. No.
Rabbit anti-TLR1	ZMD.20	52-5137
Rabbit anti-TLR2	ZMD.32	52-5237
Rabbit anti-TLR3	ZMD.21	52-5147
Rabbit anti-TLR4	ZMD.33	52-5247
Rabbit anti-TLR5	ZMD.24	52-5177
Rabbit anti-TLR6	ZMD.22	52-5157
Rabbit anti-TLR7	ZMD.23	52-5167
Rabbit anti-TLR8	ZMD.25	52-5187
Rabbit anti-TLR9	ZMD.26	52-5197
Mouse anti-HSP-70	MB-H1	33-3800

Protein A	Sepharose [®] 4B	10-1041
rec-Protein G	Sepharose [®] 4B	10-1241

*PAD: Polyclonal Antibody Designation

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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