



Qty: 100 µg/200 µl
Mouse anti-MUC4
Catalog No. 35-4900
Lot No.

Mouse anti-MUC4

FORM

This monoclonal antibody is supplied as a 200 µl aliquot at a concentration of 0.5 mg/ml in PBS, pH 7.4, containing 0.1% sodium azide. This antibody is highly purified from mouse ascites by protein A chromatography.

CLONE: 1G8 **ISOTYPE:** Mouse IgG₁

IMMUNOGEN

Rat ASGP-2

SPECIFICITY

This antibody recognizes an epitope on the ASGP-2 subunit, which is one of the main subunits that comprise the MUC4 glycoprotein complex.

REACTIVITY

Reactivity is confirmed with ASGP-2 transfected COS-7 cells and rat microvilli isolated from ascites cells of 13762 rat mammary adenocarcinoma.

Sample	ELISA	Western Blotting	Immunohistochemistry
Human	ND	+++	+++
Mouse	ND	+++	ND
Rat	+++	+++	ND

(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: 1-2 µg/ml
ELISA: <0.1 µg/ml
Immunohistochemistry: 2-5 µg/ml

***Important:** To achieve appropriate staining results, heat-induced epitope retrieval (Citrate buffer, pH 6.0) is required.

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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PI354900

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BACKGROUND

Mucins are large, highly O-glycosylated proteins that can be classified into two main groups: secreted mucins which include gel-forming (MUC2, MUC5AC, MUC5B, and MUC6) and non-gel-forming (MUC7), and membrane-bound mucins (MUC1, MUC3, MUC4, and MUC12). MUC4 has been found to be a heterodimeric glycoprotein complex that consists of ASGP-1 (ascites sialoglycoprotein-1), an O-glycosylated mucin subunit, and ASGP-2, an N-glycosylated transmembrane subunit.

ASGP-1 and ASGP-2 is a multifunctional glycoprotein complex. ASGP-1, through its O-glycosylation of the tandem repeat domain, provides anti-recognition and anti-adhesive properties to tumor cells. This property is involved in reducing the killing of tumor cells by natural killer cells and it is also important in high metastatic capacity of tumor cells. ASGP-2 has two epidermal growth factor-like domains. ASGP-2 appears to be able to bind and modulate ErbB2 receptor phosphorylation, which allows rapid growth of tumor cells.

Sialomucin complex (SMC, rat homologue of human MUC4) expression is found in normal secretory epithelial tissues in the adult rat, where the protein has multiple regulatory mechanisms⁽¹⁾. SMC is found in normal virgin mammary gland, elevated in the lactating gland, and further amplified in rat mammary adenocarcinoma. Transforming growth factor-beta (TGF- β) inhibits SMC expression. Abnormal expression of MUC4/SMC is found in several human epithelial tumors such as, breast, lung, cervix, and pancreas carcinomas. Unregulated MUC4 may promote tumor metastasis, which suggests that it has an important role in human tumor biology. For example, several studies indicate that the cytoplasmic tail of the transmembrane mucin is involved in cell-signalling events such as Sos-ras pathway, beta-catenin, and ErbB2 signalling pathway.

REFERENCES

1. Carraway, K.L. et al; *Cancer Control*: 6 (6) 613-614 (1999)
2. Carraway, C.C. et al; *J. Biol. Chem*: 274 (36) 25659-25667 (1999).
3. Perrais, M, et al; *J. Biol. Chem*: 276 (33) 30923-30933 (2001).
4. Shari A, et al; *J. Biol. Chem*: 275 (23) 17800-17807 (2000).
5. Li, Y.Q. et al; *J. Biol. Chem*: 274 (36) 25651-25658 (1999).

RELATED PRODUCTS

Product	Clone/PAD*	Cat. No.
Rabbit anti-PSMA (C-terminus)	ZMD.31	34-3200
Rabbit anti-PSMA (N-terminus)	ZMD.80	34-4100
Rabbit anti-PSMA (C-terminus)	ZMD.80	18-7318
Mouse anti-HER2	CB11	18-0107
Rabbit anti-HER2	Polyclonal	18-0111
Mouse anti-Estrogen Receptor	1D5	18-7149
Mouse anti-Estrogen Receptor	ER-7G5	18-0195
Rabbit anti-Estrogen Receptor	Polyclonal	18-0174
Mouse anti-Progesterone Receptor	PR-2C5	18-0172
Mouse anti-MUC1	VU-4-H5	18-2298
Mouse anti-MUC2	CCP58	18-2299
Mouse anti-MUC5AC	45M1	18-2261
Rabbit Anti-PTTG-1	23	18-0278
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
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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