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Monoclonal Antibody to Human MCA

Mucin-Like Carcinoma Antigen, Marker For Mucin Producing Cells

Monoclonal antibody b-12 is useful for identifying mucin-like carcinoma antigen (MCA) produced by various tumours and certain healthy glandular cells. In combination with other markers for inflammation staging or investigating neo-vascularization processes, b-12 is a valuable tool for studying tumour growth or regression. MCA is a 350kDa glycoprotein with the typical biochemical characteristics of mucin-like glycoproteins (sialomucins) which protect surfaces. Antibody b-12 binds to the protein backbone of MCA, not to the large number of carbohydrate side chains.

Product number: T-1301

Clone: b-12

Lot: 04PO0112

TECHNICAL AND ANALYTICAL CHARACTERISTICS:

Host species, subclass:	Mouse IgG1
Quantity:	50µg
Format:	Affinity purified, lyophilized
	Reconstitute by adding 0.5ml distilled water. This stock solution contains 0.1mg/ml IgG, phosphate buffered saline pH 7.2 (PBS), 2mg/ml bovine serum albumin (BSA) as a stabilizer and 0.05% sodium azide as a preservative.
Stability:	Original vial: 1 year at 4° - 8°C
	Stock solution or aliquots thereof: 1 year at -20°C. Avoid repeated thawing and freezing.
Applications:	Tested for immunohistochemistry (IHC).
	Approximate working dilution for IHC: Frozen sections: 0.5µg/ml (1:200) Paraffin sections: 4µg/ml (1:25); Proteinase K pretreatment for antigen retrieval recommended.
	Optimal dilutions should be determined by the end user.
	Suggested positive control: Human uterus.
	Please see **www.bma.ch** for protocols and general information.
Immunogen:	Breast carcinoma cell lines.
Antigen, epitope:	MCA consists of a polymorphic family of glycoproteins. The b-12 related antigenic epitope is located in the more constant region of MCA.

Antigen distribution: In contrast to MCA producing tumours, the b-12 related antigen is only located at the MCA producing sites such as glandular cell surfaces or glandular tubuli. In MCA producing tumours, where cells become disorganized, the b-12 antigen is secreted into stromal tissue and blood vessels.

b-12 Reaction Pattern on Human Tissues:

Healthy Tissues		Cancerous Tissues		
Transitional epithelium	3 / 3	Breast		122 / 122
Kidney	13 / 13	Uterus:	Endometrium	10 / 10
Fallopian tube	2 / 2		Cervix, squamous cells	2 / 2
Uterus	5 / 5	Ovary	Mucinous	4 / 4
Prostate	6 / 9		Serous	2 / 2
Epididymis	4 / 4	Testis	Malignant teratoma	7 / 7
Bronchus	13 / 13	Kidney	Clear cell	15 / 15
Sebaceous and sweat glands	6 / 6	Lung	Bronchiolo-alveolar	6 / 6
Salivary glands	3 / 4		Adenosquamous	2 / 2
Stomach	6 / 8	Stomach	Adenocarcinoma	8 / 9
Breast	23 / 23	Colon	Adenocarcinoma	24 / 36

(from Zenklusen et al. 1988)

Specificity: **Human:** MCA producing cells

Other species: negative in pig

Selected references

Staehli, C. et al.: Monoclonal antibodies against antigens on breast cancer cells. Experientia **41**: 1377 (1985)

Zenklusen, H.R. et al.: The immunohistochemical reactivity of a new anti-epithelial antibody (mAb b-12) against breast carcinoma and other normal and neoplastic human tissues. Virchows Arch A Pathol Anat **413**: 3 (1988)

Maurer, A. & Burckhardt, J.: Biochemistry and molecular biology of MCA. Int. J. Biol. Markers 8: 108-112 (1993.

For *in vitro* research only. Caution: this product contains sodium azide, a poisonous and hazardous substance.