



Qty: 100 µg/200 µL  
Mouse anti-GCTM-2  
Catalog No. 433140

## Mouse anti-GCTM-2

### FORM

This affinity-purified mouse 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 IgM purification column.

Clone: N/A      Isotype: IgM

### IMMUNOGEN

Human embryonal carcinoma cell extract

### SPECIFICITY

This antibody recognizes an epitope on a 200 kDa extracellular protein present on the surface of embryonal carcinoma cells. The antigen was determined to be a keratin sulphate proteoglycan.<sup>3</sup>

### REACTIVITY

Reactivity has been confirmed with human BG01V cells (human embryonic stem cell line) using Flow Cytometry.

Sample	Western Blotting	Immuno-precipitation	Immuno-cytochemistry	Immuno-histochemistry	Flow Cytometry
Human	+++ <sup>1,3</sup>	+++ <sup>3</sup>	+++ <sup>1,2</sup>	+++ <sup>2</sup>	+++ <sup>5</sup>
Baboon	ND	ND	ND	+++ <sup>4</sup>	ND
Mouse	ND	ND	ND	0 (no reactivity)	ND
Rat	ND	ND	ND	0 (no reactivity)	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:** 5 µg/mL  
**Immunoprecipitation:** 2-4 µg/IP reaction  
**Immunocytochemistry:** 2-5 µg/mL  
**Immunohistochemistry:** 5 µg/mL  
**Flow Cytometry:** 1-2 µg/reaction

(cont')

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**STORAGE**

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

**BACKGROUND**

Human embryonal carcinoma cell lysates were used to inject mice and generate monoclonal antibodies.<sup>1</sup> Four different hybridomas were characterized. GCTM-1 stained the nuclei of all human cells tested. GCTM-2 recognized an epitope on a 200 kDa extracellular protein present on the surface of embryonal carcinoma cells, and stained the surface of visceral yolk sac-type carcinoma and colorectal carcinoma cells. Further analysis revealed that the antigen was a keratin sulphate proteoglycan.<sup>3</sup> Two additional hybridomas, GCTM-3 and GCTM-4, were also generated from this fusion having distinctive staining patterns. GCTM-2 also stains tissue sections from human non-seminomatous germ cell tumours, and from seminomas.<sup>2</sup> Fetal gut epithelium and muscle display strong staining in normal human tissues. This antibody is also useful in studying other species, for example by staining baboon kidney sections.<sup>4</sup> GCTM-2 constitutes one of the major reagents for studying embryonal stem cells in varying applications.<sup>5,6</sup>

**REFERENCES**

1. Pera MF, Blasco-Lafita MJ, Cooper S, Mason M, Mills J, Monaghan P. Analysis of cell-differentiation lineage in human teratomas using new monoclonal antibodies to cytostructural antigens of embryonal carcinoma cells. *Differentiation*. 1988 Dec;39(2):139-49.
2. Mason MD, Pera MF. Immunohistochemical and biochemical characterisation of the expression of a human embryonal carcinoma cell proteoglycan antigen in human germ cell tumours and other tissues. *Eur J Cancer*. 1992;28A(6-7):1090-8.
3. Cooper S, Pera MF, Bennett W, Finch JT. A novel keratan sulphate proteoglycan from a human embryonal carcinoma cell line. *Biochem J*. 1992 Sep 15;286 ( Pt 3):959-66. Erratum in: *Biochem J* 1992 Dec 15;288(Pt 3):1077.
4. Gubhaju L, Laslett A, Bertram JF, Zulli A, Black MJ. Immunohistochemical localisation of TRA-1-60, TRA-1-81, GCTM-2 and podocalyxin in the developing baboon kidney. *Histochem Cell Biol*. 2008 May;129(5):651-7.
5. Pera MF, Andrade J, Houssami S, Reubinoff B, Trounson A, Stanley EG, Ward-van Oostwaard D, Mummery C. Regulation of human embryonic stem cell differentiation by BMP-2 and its antagonist noggin. *J Cell Sci*. 2004 Mar 1;117(Pt 7):1269-80.
6. Richards M, Fong CY, Chan WK, Wong PC, Bongso A. Human feeders support prolonged undifferentiated growth of human inner cell masses and embryonic stem cells. *Nat Biotechnol*. 2002 Sep;20(9):933-6.

**RELATED PRODUCTS**

<b>Product</b>	<b>Conjugate</b>	<b>Cat. No.</b>
Protein A	Sepharose 4B	10-1041
rec-Protein G	Sepharose 4B	10-1241
ZyMAX™ Goat anti-rabbit IgG	Unconjugated	81-6100
ZyMAX™ Goat anti-mouse IgG	Unconjugated	81-6500

Secondary antibody conjugates.

<b>Conjugate</b>	<b>Goat anti-rabbit IgG (H+L)</b>	<b>Goat anti-mouse IgG (H+L)</b>	<b>Ex/Em*</b>	<b>Fluorescence similar to--</b>
Alexa Fluor® 488	A11008	A11001	495/519	FITC
Alexa Fluor® 555	A21428	A21422	555/565	Cy3
Alexa Fluor® 594	A11012	A11005	590/617	Texas Red
Alexa Fluor® 647	A21244	A21235	650/668	Cy5
HRP	81-6120	81-6520	NA**	NA
AP	81-6122	81-6522	NA	NA
Biotin	B2770	B2763	NA	NA

\*Excitation/emission (nm); \*\*Not applicable

For additional secondary antibody conjugates, visit [www.invitrogen.com/antibodies](http://www.invitrogen.com/antibodies)

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