

## Product Data Sheet

# Rat anti-human Repulsive Guidance Molecule B (RGMB) monoclonal antibody (GM 1002)

### Product information

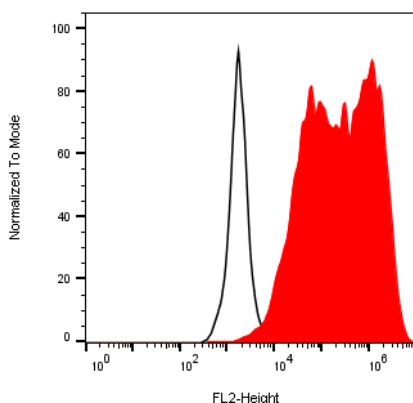
<b>Catalog Number:</b>	GM-1002
<b>Clone:</b>	BFH-5C9
<b>Description:</b>	purified monoclonal rat antibody
<b>Specificity:</b>	anti-human RGMB
<b>Isotype:</b>	IgG2a/kappa
<b>Purification:</b>	Protein G
<b>Storage:</b>	short term: 2°C - 8°C; long term: -20°C (avoid repeated freezing and thawing)
<b>Buffer:</b>	phosphate buffered saline, pH 7.2
<b>Immunogen:</b>	genetic immunisation with cDNA encoding the extracellular domain (ecd) of human RGMB
<b>Selection:</b>	based on recognition of the ecd region of RGMB on viable, transfected mammalian cells

### Working dilutions

<b>Flow cytometry:</b>	1.2 µg/10 <sup>6</sup> cells
<b>ELISA:</b>	1:200 - 1:400
<b>CELISA:</b>	1:200 - 1:400

For each application a titration should be performed to determine the optimal concentration.

### Specificity testing by flow cytometry

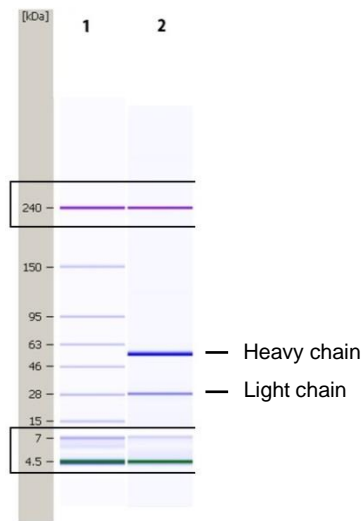


**Fig.1:** GM-1002. BOSC23 cells were transiently transfected with an expression vector encoding either the ecd of human RGMB (red filled curve), or an irrelevant protein (control transfectant, black curve). Binding of BFH-5C9 was detected with a PE-conjugated secondary antibody. A positive signal was obtained only with human RGMB.

*For research use only. Not for diagnostic or therapeutic use.*

## CGE analysis of GM-1002

The antibody was purified by protein G affinity chromatography from cell culture supernatants and verified by CGE (Fig.2).



**Fig.2:** CGE analysis of purified BFH-5C9 monoclonal antibody. Lane 1: molecular weight marker, Lane 2: 2 µg of purified BFH-5C9 antibody. Proteins were separated by CGE (capillary gel electrophoresis, Agilent 2100 Bioanalyzer). Internal control bands (240 kDa / 7 kDa / 4,5 kDa).

## Background

The RGM domain family member B (RGMB) is a glycosylphosphatidylinositol (GPI)-anchored member of the **Repulsive Guidance Molecule** family which plays a role in patterning of the developing nervous system (1). There is a potential association between RGMs and cancer bone metastasis, as RGMs coordinate bone morphogenetic protein (BMP) signaling. RGMB may act as a negative regulator *in vitro* in breast cancer and prostate cancer through BMP signalling (2,3). Furthermore, aberrant expression of RGMs was indicated in breast cancer (4). The perturbed expression was associated with disease progression and poor prognosis.

This antibody is recommended for applications under non-denaturing conditions.

## References

1. **Severyn CJ, Shinde U and Rotwein P. (2009).** Molecular biology, genetics and biochemistry of the repulsive guidance molecule family. *Biochem J.* 422(3):393-403. doi: 10.1042/BJ20090978.
2. **Li J, Ye L, Sanders AJ and Jiang WG (2012).** Repulsive guidance molecule B (RGMB) plays negative roles in breast cancer by coordinating BMP signalling. *J. Cell. Biochem.* 113(7): 2523-2531. doi:10.1002/jcb.24128.
3. **Li J, Ye L, Kynaston HG and Jiang WG (2012).** Repulsive guidance molecules, novel bone morphogenetic protein co-receptors, are key regulators of the growth and aggressiveness of prostate cancer cells. *Int.J. Oncol.* 40(2): 544-550. doi: 10.3892/ijo.2011.1251.
4. **Li J, Ye L, Mansel RE and Jiang WG (2011).** Potential prognostic value of repulsive guidance molecules in breast cancer. *Anticancer Res.* 31(5):1703-1711.