

## Product Data Sheet

### Rat anti-human VEGFR2 monoclonal antibody (GM-1006)

#### Product information

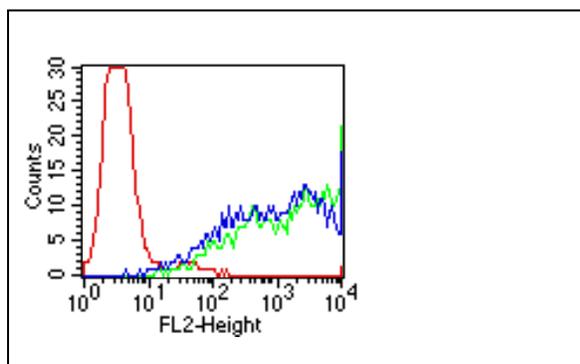
<b>Catalog Number:</b>	GM-1006
<b>Clone:</b>	BEP-5A1
<b>Description:</b>	purified monoclonal rat antibody
<b>Specificity:</b>	anti-human/pig VEGFR2 (epitope on the second extracellular immunoglobulin-like domain)
<b>Isotype:</b>	IgG2a/kappa
<b>Purification:</b>	Protein G
<b>Storage:</b>	short term: 2°C - 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 human VEGFR2
<b>Selection:</b>	based on recognition of the complete <b>native protein</b> expressed on 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.

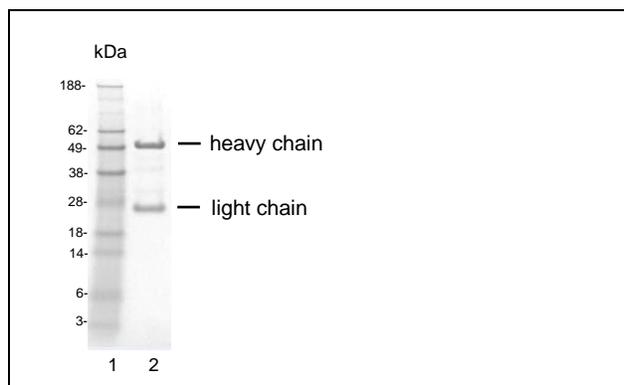
#### Specificity testing by flow cytometry



**Fig.1:** GM-1006. BOSC23 cells were transiently transfected with an expression vector encoding either human VEGFR2 (green curve), pig VEGFR2 (blue curve) or an irrelevant protein (control transfectant, red curve). Binding of BEP-5A1 was detected with a PE conjugated secondary antibody. A positive signal was obtained only with human and pig VEGFR2 transfected cells.

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

## SDS-PAGE analysis of BEP-5A1



**Fig.2:** SDS-PAGE analysis of purified BEP-5A1 monoclonal antibody. Lane 1: molecular weight marker, Lane 2: 2 µg of purified BEP-5A1 antibody. Proteins were separated by SDS-PAGE and stained with RAPID Stain™ Reagent<sup>3</sup>.

## Background

The vascular endothelial growth factor receptor-2 (VEGFR-2) plays an important role in the control of angiogenesis. This molecule is expressed on the surface of circulating endothelial stem cells as well as on adult vascular endothelial cells and other cell types (1). It is a 200-kDa type I transmembrane protein, consisting of a 19 amino acid leader peptide, a 744 amino acid extracellular domain made up of 7 immunoglobulin-like domains, a 24 amino acid transmembrane region and a 568 amino acid cytoplasmic domain. Interactions with VEGF ligands will stimulate angiogenesis, required in wound healing but also misused by tumours to promote their vascularization (2). The current monoclonal antibody was developed by genetic immunization against the complete extracellular domain of human VEGFR-2 which has been shown to be specific for the native target molecule and its counterpart in pigs using FACscan analyses on viable, transiently-transfected human BOSC23 cells (see Fig. 1). It binds to an epitope on the second extracellular immunoglobulin-like domain.

## References

1. **Paz K, Zhu Z. (2005)** Development of angiogenesis inhibitors to vascular endothelial growth factor receptor 2. Current status and future perspective. *Front. Biosci.* 10:1415-1439.
2. **Youssoufian H., Hicklin D.J., Rowinsky E.K. (2007)** Monoclonal antibodies to the vascular endothelial growth factor receptor-2 in cancer therapy. *Clin. Cancer Res.* 13 (18 Suppl): 5544-5528.

(RAPID Stain™ Reagent is a trade mark of Calbiochem-EMD Millipore.)