

## Product Data Sheet

### anti-human IL13 receptor (IL13-R)

### monoclonal antibody

#### Product information

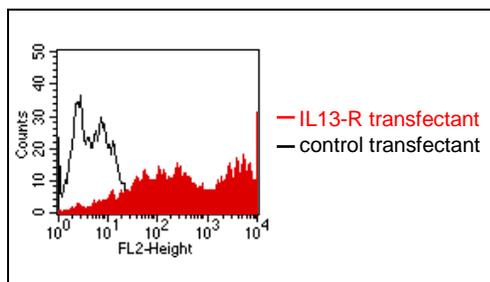
<b>Catalog Number:</b>	GM-0104
<b>Clone:</b>	GM-1E7
<b>Description:</b>	purified monoclonal mouse antibody
<b>Specificity:</b>	anti-human IL13 receptor (IL13-R)
<b>Isotype:</b>	IgG1
<b>Purification:</b>	Protein G
<b>Storage:</b>	short term: 2°C - 8°C; long term: -20°C (avoid repeated freezing and thawing)
<b>Buffer :</b>	phosphate buffered saline, pH 7.2
<b>Immunogen:</b>	genetic immunisation with cDNA encoding human IL13-Rα1 (extracellular domain)
<b>Selection:</b>	based on recognition of the complete <b>native protein</b> expressed on transfected mammalian cells

#### Working dilutions

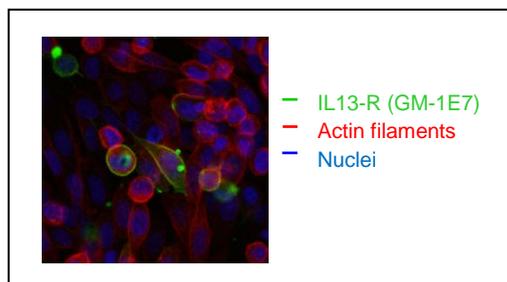
<b>Flow cytometry:</b>	1.2 µg/10 <sup>6</sup> cells
<b>Immunofluorescence:</b>	1 µg/10 <sup>6</sup> cells
<b>CELISA:</b>	1:200 - 1:400

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

#### Specificity testing by flow cytometry and by Spectral Confocal Microscopy



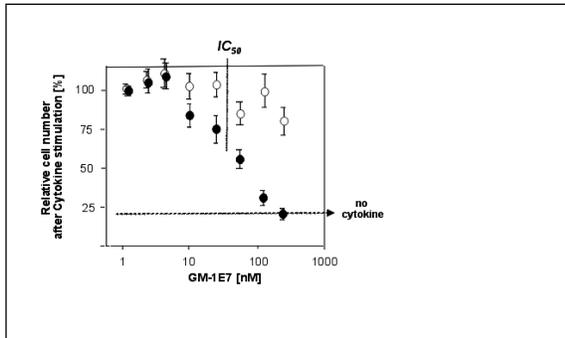
**Fig.1:** FACS analysis of BOSC23 cells using GM-1E6 Cat.# GM-0104. BOSC23 cells were transiently transfected with an expression vector encoding either IL13-R (red curve) or an irrelevant protein (control transfectant: black curve). Binding of GM-1E7 was detected with a PE-conjugated secondary antibody. A positive signal was obtained only with IL13-R transfected cells.



**Fig.2:** Spectral Confocal Microscopy of CHO cells using GM-1E7 Cat.# GM-0104. CHO cells were transiently transfected with an expression vector encoding IL13-R. Binding of GM-1E7 was visualized with a FITC-conjugated secondary antibody (green). Actin filaments are labeled with Alexa Fluor-555 Phalloidin (red). Cell nuclei are stained with DAPI (blue).

## Antagonistic Properties of GM-1E7

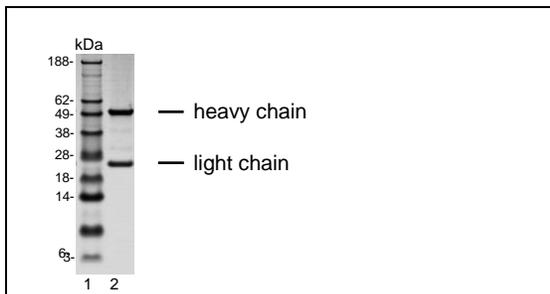
Specific inhibition of IL-13-dependent proliferation of TF-1 cells by GM-1E7



**Fig 3:** Dose-dependent inhibition of cellular proliferation. Samples of TF-1 cells were incubated for 72 h with 10 nM human IL-13 (closed circles) or 10 nM human IL-4 (open circles) plus the indicated concentrations of purified GM-1E7. Antibody GM1E7 blocks IL-13-dependent cell proliferation completely, but only marginally influences IL-4-activity on TF-1 cells.

## SDS-PAGE analysis of GM-1E7

The antibody was purified by protein G affinity chromatography from cell culture supernatants and verified by SDS-Page (Fig.4).



**Fig.4:** SDS-PAGE analysis of purified GM-1E7 monoclonal antibody. Lane 1: molecular weight marker, Lane 2: 2 µg of purified GM-1E7 antibody. Proteins were separated by SDS-PAGE and stained with RAPID Stain™ Reagent.

## Background

*Interleukin 13 (IL-13)* is a T cell derived cytokine involved in the regulation of inflammatory and immune responses. IL-13R $\alpha$ 1 together with IL-4R $\alpha$  forms a functional receptor for both IL-4 and IL-13, which is why these two cytokines share many of their biological activities. The receptor is found on human B cells, monocytes and endothelial cells. However, no functional receptor is expressed on T cells, which explains why IL-13, in contrast to IL-4, fails to induce T<sub>H</sub>2-cell differentiation.

## References

1. **Myrtek et al. (2004):** Expression of interleukin-13 receptor alpha 1-subunit on peripheral blood eosinophils is regulated by cytokines. *Immunology* **112(4)**: 597-604.
2. **Krause et al. (2006):** Blockade of interleukin-13-mediated cell activation by a novel inhibitory antibody to human IL-13 receptor  $\alpha$ 1. *Mol Immunol* **33**: 1799-1807