

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat gp130 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human or recombinant mouse gp130 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 745314
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat gp130 Gln23-Glu618 (predicted) Accession # P40190
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	CD3+ rat splenocytes

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Glycoprotein 130 (gp130; also known as IL-6 signal transducer, IL-6 receptor beta, oncostatin-M alpha subunit) is a ubiquitously expressed, 130 kDa type I transmembrane glycoprotein and member of the type II subfamily, type I cytokine receptor family. Functionally, it is responsible for transduction of the IL-6 signal across the plasma membrane (1). Rat gp130 is synthesized as a 918 amino acid (aa) precursor with a 22 aa signal sequence, a 596 aa extracellular domain (ECD), a 22 aa transmembrane region, and a 278 aa cytoplasmic tail. Eleven potential N-linked glycosylation sites are found within the rat gp130 ECD (1). The ECD also contains an N terminal immunoglobulin (Ig)-like C2-type domain, followed by the cytokine receptor homology region (CHR) which is made up of two fibronectin type III-like domains and a WSXWS motif, and three additional fibronectin type III-like domains (2). The domains in the CHR are the structural hallmarks of the hematopoietic cytokine receptor family (2). Rat gp130 shares 88% and 79% aa sequence identity with mouse and human gp130, respectively. Gp130 serves as the signal transducing receptor subunit for the IL-6-type cytokines consisting of interleukin (IL)-6, IL-11, leukemia inhibitory factor (LIF), oncostatin M (OSM), ciliary neurotrophic factor (CNTF), new neurotrophin factor-1 (NNT-1), IL-27, cardiotrophin-1 (CT-1), and cardiotrophin like cytokine (CLC) (2-5). These cytokines are involved in a variety of functions including the modulation of inflammatory and immune responses, heart development, fertility, and many other activities (2).

References:

1. Wang, Y. *et al.* (1992) *Genomics* **14**:666.
2. Muller-Newen, G. (2003) *Sci. STKE* pe40.
3. Heinrich, P.C. *et al.* (2003) *Biochem. J.* **374**:1.
4. Stuhlmann-Laeisz, C. *et al.* (2006) *Mol. Biol. Cell* **17**:2986.
5. Fischer, P. and D. Hilfiker-Kleiner (2008) *Br. J. Pharmacol.* **153**:S414.

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