

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Mouse                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects mouse G-CSF R/CD114 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) G-CSF R, rhGM-CSF R beta, recombinant mouse (rm) GM-CSF R alpha, or rmM-CSF R is observed.                                                                  |
| <b>Source</b>             | Monoclonal Rat IgG <sub>2B</sub> Clone # 680206                                                                                                                                                                                                                             |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant mouse G-CSF R/CD114<br>Cys26-Asp626<br>Accession # P40223                                                                                                                                                                   |
| <b>Conjugate</b>          | Alexa Fluor 647<br>Excitation Wavelength: 650 nm<br>Emission Wavelength: 668 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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.

**Neutralization** Optimal dilution of this antibody should be experimentally determined.

#### 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. 12 months from date of receipt, 2 to 8 °C as supplied

#### BACKGROUND

Granulocyte colony stimulating factor (G-CSF) is a pleiotropic cytokine best known for its specific effects on the proliferation, differentiation, and activation of hematopoietic cells of the neutrophilic and granulocyte lineage (1). G-CSF plays an important role in defense against infection, in inflammation and repair, and in the maintenance of steady state hematopoiesis. Cell activation by G-CSF is mediated by granulocyte colony stimulating factor receptor alpha (G-CSF R; also CD114), a 95-105 kDa type I transmembrane protein and member of the cytokine receptor superfamily, type I cytokine receptor family, and type 2 subfamily of receptor proteins. Mouse G-CSF R is synthesized as an 837 amino acid (aa) precursor that contains a 25 aa signal sequence, a 601 aa extracellular domain (ECD), a 24 aa transmembrane region, and a 187 aa cytoplasmic tail. The ECD contains one Ig-like C2-type domain, five fibronectin type-III domains, and 11 potential sites for N-linked glycosylation. Within the ECD there is also a WSXWS motif (aa 319-323) that is necessary for proper protein folding and thereby efficient intracellular transport and cell-surface receptor binding (2). Also, within the cytoplasmic domain there is a Box 1 motif which is required for JAK interaction and/or activation (1). Mouse G-CSF R shares 63% aa sequence identity with human G-CSF R. G-CSF R is expressed in mature neutrophils, neutrophilic precursors, myeloid leukemia cells, and placenta (1). Mutations have been found in the gene encoding G-CSF R in some patients with severe congenital neutropenia (1). These mutations typically lead to a truncation in the cytoplasmic domain of the G-CSF R leading to maturation arrest of neutrophilic precursors in the bone marrow and neutropenia in peripheral blood (3). Binding of G-CSF to its receptor induces dimerization or oligomerization of the receptor activating cytoplasmic tyrosine kinases (2). Signal transduction from pathways that involve Janus tyrosine kinases/signal transducer and activator of transcription proteins (Jak1, Jak2, and Tyk2/STAT3 and STATG), src-related protein tyrosine kinases (Lyn and Syk), Ras/MAP kinase, and phosphatidylinositol have been reported to be activated upon G-CSF stimulation (4).

#### PRODUCT SPECIFIC NOTICES

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