# Human Common γ Chain/IL-2 Rγ Antibody

Monoclonal Mouse $IgG_{2B}$ Clone # 633162

Catalog Number: MAB2842

## DESCRIPTION

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|---|---|
| **Species Reactivity** | Human |
| **Specificity** | Detects human Common γ Chain/IL-2 Rγ in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human (rh) IL-2 Rα, rhIL-2 Rβ, rhIL-15 Rα, recombinant mouse IL-2 Rγ, or recombinant canine IL-2 Rα is observed. In Western blots, approximately 80% cross-reactivity with recombinant human IL-2 Rβ, 50% cross-reactivity with rhIL-15 Rα and recombinant mouse IL-2 Rα, and no cross-reactivity with rhIL-2 Rα is observed. |
| **Source** | Monoclonal Mouse $IgG_{2B}$ Clone # 633162 |
| **Purification** | Protein A or G purified from hybridoma culture supernatant |
| **Immunogen** | *S. frugiperda* insect ovarian cell line *Sf21*-derived recombinant human Common γ Chain/IL-2γ<br>Leu23-Asn254<br>Accession # P31785 |
| **Endotoxin Level** | <0.10 EU per 1 µg of the antibody by the LAL method. |
| **Formulation** | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS. |

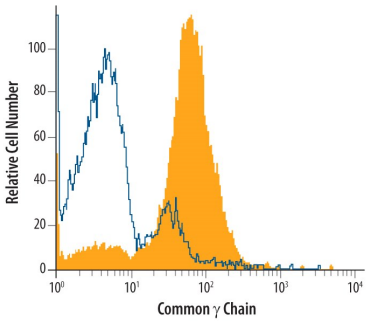
## APPLICATIONS

**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** | 2.5 µg/$10^6$ cells | See Below |
| **Neutralization** | Measured by its ability to neutralize IL−2-induced proliferation in the MO7e human megakaryocytic leukemic cell line. Avanzi, G. *et al.* (1988) Br. J. Haematol. **69**:359. The Neutralization Dose ($ND_{50}$) is typically 0.08-0.4 µg/mL in the presence of 200 ng/mL Recombinant Human IL−2. | |

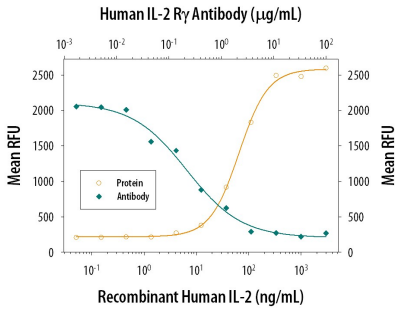
## DATA

### Flow Cytometry




**Detection of Common γ Chain/IL-2 Rγ in Human PBMC by Flow Cytometry.** Human peripheral blood lymphocytes were stained with Mouse Anti-Human Common γ Chain/IL-2 Rγ Monoclonal Antibody (Catalog # MAB2842, filled histogram) or isotype control antibody (Catalog # MAB0041, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG $F(ab')_2$ Secondary Antibody (Catalog # F0101B).

### Neutralization




**Cell Proliferation Induced by IL-2 and Neutralization by Human Common γ Chain/ IL-2 Rγ Antibody.** Recombinant Human IL-2 (Catalog # 202-IL) stimulates proliferation in the MO7e human megakaryocytic leukemic cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human IL-2 (200 ng/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human Common γ Chain/IL-2 Rγ Monoclonal Antibody (Catalog # MAB2842). The $ND_{50}$ is typically 0.08-0.4 µg/mL.

## PREPARATION AND STORAGE

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| **Reconstitution** | Sterile PBS to a final concentration of 0.5 mg/mL. |
| **Shipping** | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.<br>*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C |
| **Stability & Storage** | **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 6 months, -20 to -70 °C under sterile conditions after reconstitution. |

## BACKGROUND

The γ chain of the high affinity functional human IL-2 receptor complex belongs to the hematopoietin receptor family. IL-2 Rγ is a 369 amino acid protein consisting of a 22 aa signal sequence, a 232 aa extracellular domain, a 29 aa transmembrane domain and an 86 aa cytoplasmic domain. Although IL-2 Rγ by itself does not bind IL-2 with any appreciable affinity, it is required for IL-2 receptor signaling. Besides IL-2, the γ chain has been shown to be a component of the functional receptor complexes for IL-4, IL-7, IL-9 and IL-15. IL-2 Rγ has been designated the common γ chain ($\gamma_c$). The site of molecular defects in X-linked SCID (severe combined immunodeficiency) has been mapped to the IL-2 Rγ gene.

**References:**


1. Minami, Y. *et al.* (1993) Annu. Rev. Immunol. **11**:245.
2. Noguchi, M. *et al.* (1993) Science **262**:1877.





bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956