Human IL-2 Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2171A
Catalog Number: MAB10356

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-2 in direct ELISAs.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2171A
Purification	Protein A or G purified from cell culture supernatant
Immunogen	*E. coli*-derived human IL-2 Ala21-Thr153 Accession # P60568
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

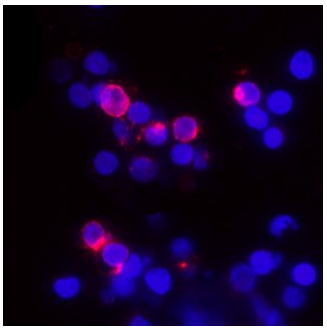
APPLICATIONS

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
Immunocytochemistry	8-25 µg/mL	See Below
Intracellular Staining by Flow Cytometry	0.25 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

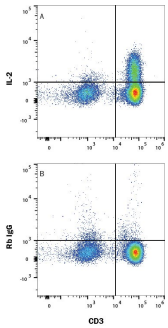
DATA

Immunocytochemistry



IL-2 in Human PBMCs. IL-2 was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) treated with calcium ionomycin and PMA using Rabbit Anti-Human IL-2 Monoclonal Antibody (Catalog # MAB10356) at 8 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Rabbit IgG Secondary Antibody (red; Catalog # NL004) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

Intracellular Staining by Flow Cytometry



Detection of IL-2 in Human PBMCs by Flow Cytometry. Human peripheral blood mononuclear cells (PBMCs) treated with Cell Activation Cocktail 500x (Catalog # 5476) for 5 hours were stained with (A) Rabbit Anti-Human IL-2 Monoclonal Antibody (Catalog # MAB10356) or (B) Rabbit IgG isotype control antibody ((Catalog # MAB1050) followed by Anti-Rabbit IgG APC-conjugated Secondary Antibody (Catalog # F0111) and Mouse anti-Human CD3 PE-conjugated Monoclonal Antibody (Catalog # FAB100P). To facilitate intracellular staining, cells were fixed and permeabilized using FlowX FoxP3/Transcription Factor Fixation & Perm Buffer Kit (Catalog # FC012). View our protocol for Staining Intracellular Molecules.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *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.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

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BACKGROUND

Interleukin-2 (IL-2) is a O-glycosylated, four α-helix bundle cytokine that has potent stimulatory activity for antigen-activated T cells. It is expressed by $CD4^+$ and $CD8^+$ T cells, γδ T cells, B cells, dendritic cells, and eosinophils (1-3). Mature human IL-2 shares 56% and 66% aa sequence identity with mouse and rat IL-2, respectively. Human and mouse IL-2 exhibit cross-species activity (4). The receptor for IL-2 consists of three subunits that are present on the cell surface in varying preformed complexes (5-7). The 55 kDa IL-2 Rα is specific for IL-2 and binds with low affinity. The 75 kDa IL-2 Rβ, which is also a component of the IL-15 receptor, binds IL-2 with intermediate affinity. The 64 kDa common gamma chain γc/IL-2 Rγ, which is shared with the receptors for IL-4, -7, -9, -15, and -21, does not independently interact with IL-2. Upon ligand binding, signal transduction is performed by both IL-2 Rβ and γc. IL-2 is best known for its autocrine and paracrine activity on T cells. It drives resting T cells to proliferate and induces IL-2 and IL-2 Rα synthesis (1, 2). It contributes to T cell homeostasis by promoting the Fas-induced death of naïve $CD4^+$ T cells but not activated $CD4^+$ memory lymphocytes (8). IL-2 plays a central role in the expansion and maintenance of regulatory T cells, although it inhibits the development of Th17 polarized cells (9-11). Thus, IL-2 may be a key cytokine in the natural suppression of autoimmunity (12, 13).

References:

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