

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-2 in direct ELISAs.
<b>Source</b>	Recombinant Monoclonal Rabbit IgG Clone # 2171A
<b>Purification</b>	Protein A or G purified from cell culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived human IL-2 Ala21-Thr153 Accession # P60568
<b>Conjugate</b>	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide.

\*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
<b>Intracellular Staining by Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	Human PBMC fixed and permeabilized using FlowX FoxP3/Transcription Factor Fixation & Perm Buffer Kit (Catalog # FC012)

## PREPARATION AND STORAGE

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

## BACKGROUND

Interleukin-2 (IL-2) is a O-glycosylated, four  $\alpha$ -helix bundle cytokine that has potent stimulatory activity for antigen-activated T cells. It is expressed by CD4<sup>+</sup> and CD8<sup>+</sup> T cells,  $\gamma\delta$  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 R $\alpha$  is specific for IL-2 and binds with low affinity. The 75 kDa IL-2 R $\beta$ , which is also a component of the IL-15 receptor, binds IL-2 with intermediate affinity. The 64 kDa common gamma chain  $\gamma$ c/IL-2 R $\gamma$ , 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 R $\beta$  and  $\gamma$ c. 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 R $\alpha$  synthesis (1, 2). It contributes to T cell homeostasis by promoting the Fas-induced death of naïve CD4<sup>+</sup> T cells but not activated CD4<sup>+</sup> 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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