

## DESCRIPTION

|                                                                                                                                                                                                         |                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                                                                                                                                                                                                       |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human IL-2 in direct ELISAs and Western blots. In direct ELISAs, greater than 50% cross-reactivity with recombinant rabbit IL-2 is observed and less than 20% cross-reactivity with recombinant bovine IL-2, recombinant mouse IL-2 and recombinant |
| <b>Source</b>                                                                                                                                                                                           | Polyclonal Goat IgG                                                                                                                                                                                                                                         |
| <b>Purification</b>                                                                                                                                                                                     | Antigen Affinity-purified                                                                                                                                                                                                                                   |
| <b>Immunogen</b>                                                                                                                                                                                        | <i>E. coli</i> -derived recombinant human IL-2<br>Ala21-Thr153<br>Accession # P60568                                                                                                                                                                        |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 488<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 515-545 nm                                                                                                                                                                         |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% 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.

|                            |                                                                        |
|----------------------------|------------------------------------------------------------------------|
| <b>Neutralization</b>      | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>        | Optimal dilution of this antibody should be experimentally determined. |
| <b>ELISA</b>               | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunocytochemistry</b> | Optimal dilution of this antibody should be experimentally determined. |

## 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> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## 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).

## PRODUCT SPECIFIC NOTICES

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