

## DESCRIPTION

|                                                                                                                                                                                                         |                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Mouse                                                                                                     |
| <b>Specificity</b>                                                                                                                                                                                      | Detects mouse IL-7 Rα/CD127 in ELISAs.                                                                    |
| <b>Source</b>                                                                                                                                                                                           | Monoclonal Rat IgG <sub>2B</sub> Clone # 132206                                                           |
| <b>Purification</b>                                                                                                                                                                                     | Protein A or G purified from hybridoma culture supernatant                                                |
| <b>Immunogen</b>                                                                                                                                                                                        | Mouse myeloma cell line NS0-derived recombinant mouse IL-7 Rα/CD127<br>Glu21-Asp239<br>Accession # P16872 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 750<br>Excitation Wavelength: 749 nm<br>Emission Wavelength: 775 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>ELISA Capture (Matched Antibody Pair)</b>   | Optimal dilution of this antibody should be experimentally determined. |
| <b>ELISA Detection (Matched Antibody Pair)</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 7 Receptor alpha (IL-7 Rα), also known as CD127, is a 75 kDa hematopoietin receptor superfamily member that plays an important role in lymphocyte differentiation, proliferation, and survival (1, 2). Mature mouse IL-7 Rα consists of a 219 amino acid (aa) extracellular domain (ECD) with one fibronectin type III domain and a WSxWS motif, a 25 aa transmembrane segment, and a 195 aa cytoplasmic domain (3). Within the ECD, mouse IL-7 Rα shares 67% and 79% aa sequence identity with human and rat IL-7 Rα, respectively. IL-7 Rα associates with the common γ chain (γ<sub>C</sub>) to form the functional high affinity IL-7 receptor complex (4). The γ<sub>C</sub> is also a subunit of the receptors for IL-2, -4, -9, -15, and -21. Human and mouse IL-7 show cross-species activity through the IL-7 receptor (3, 5). IL-7 Rα is expressed on double negative (CD4<sup>-</sup>CD8<sup>-</sup>) and CD4<sup>+</sup> or CD8<sup>+</sup> single positive T cells as well as on CD8<sup>+</sup> memory T cells and their precursors (6, 7). It is expressed early in B cell development, prior to the appearance of surface IgM (6). In mouse, IL-7 activation of IL-7 Rα is critical for both T cell and B cell lineage development (8). In human it is required for T cell but not for B cell development (9). IL-7 induces the down regulation and shedding of cell surface IL-7 Rα (10). IL-7 Rα additionally associates with TSLP R to form the functional receptor for thymic stromal lymphopoietin (11, 12). TSLP indirectly regulates T cell development by modulating dendritic cell activation (2, 13). Knockout of TSLP R in mice provokes minor changes in B and T cell development compared to those seen with IL-7 Rα deletion (8, 14). The complexity of IL-7 Rα biology is suggested by the competition between IL-7 and TSLP for receptor binding and by the ability of IL-7 Rα to form functional complexes with SCF R and HGF R (11, 12, 15, 16).

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