

IL-2R β (D4X3H) Rabbit mAb

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IP	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 79	Source/Isotype: Rabbit IgG	UniProt ID: #P14784	Entrez-Gene Id: 3560
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

Supplied in 10mM sodium HEPES (pH 7.5), 150mM NaCl, 100 μ g/ml, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

IL-2R β (D4X3H) Rabbit mAb recognizes endogenous levels of total IL-2R β protein. This antibody cross-reacts with proteins of unknown identity at 38-42 kDa.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu428 of human IL-2R β protein.

Background

Interleukin-2 (IL-2) is a T cell stimulatory cytokine best known for inducing T cell proliferation and NK cell proliferation and activation (1,2). IL-2 also promotes peripheral development of regulatory T cells (Tregs) (3,4). Conversely, IL-2 is involved in the activation-induced cell death (AICD) that is observed post T cell expansion by increasing levels of Fas on CD4⁺ T cells (5). The effects of IL-2 are mediated through a trimeric receptor complex consisting of IL-2R α , IL-2R β , and the common gamma chain, γ c (1,2). IL-2R α binds exclusively to IL-2 with low affinity and increases the binding affinity of the whole receptor complex including IL-2R β and γ c subunits. IL-15 also binds to IL-2R β (1,2). γ c is used by other cytokines, including IL-4, IL-7, IL-9, IL-15, and IL-21 (1,2). Binding of IL-2 initiates signaling cascades involving Jak1, Jak3, Stat5, and the PI3K/Akt pathways (1,2).

IL-2R β , also known as CD122, is a type I transmembrane protein that is expressed by natural killer cells and certain subsets of T cells in the periphery (6). IL-2R β surface expression is upregulated following antigen-induced activation. A heteromeric complex composed of IL-2R β and γ c forms the intermediate affinity IL-2 receptor whereas a complex comprised of all three chains forms the high affinity receptor. Signaling through IL-2R β is mediated by Jak1 (7), which phosphorylates numerous tyrosine residues in the cytoplasmic tail to promote the recruitment of the adaptor Shc to IL-2R β and enhance IL-2 receptor signaling (8, 9).

Background References

1. Ma, A. et al. (2006) *Annu Rev Immunol* 24, 657-79.
2. Gaffen, S.L. and Liu, K.D. (2004) *Cytokine* 28, 109-23.
3. Fehérvari, Z. et al. (2006) *Trends Immunol* 27, 109-11.
4. Antony, P.A. et al. (2006) *J Immunol* 176, 5255-66.
5. Jaleco, S. et al. (2003) *J Immunol* 171, 61-8.
6. Shevach, E.M. (2012) *Trends Immunol* 33, 626-32.
7. Nelson, B.H. and Willerford, D.M. (1998) *Adv Immunol* 70, 1-81.
8. Gaffen, S.L. (2001) *Cytokine* 14, 63-77.
9. Yu, A. et al. (2009) *Immunity* 30, 204-17.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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