

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-15 in direct and capture Elisas.
Source	Monoclonal Mouse IgG _{2A} Clone # 1048222
Purification	Protein A or G purified from ascites
Immunogen	<i>E. coli</i> -derived human IL-15 protein Asn49-Ser162 Accession # P40933.1
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	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.

Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Interleukin 15 (IL-15) is a widely expressed 14 kDa cytokine that is structurally and functionally related to IL-2 and plays an important role in many immunological diseases (1, 2). Mature human IL-15 protein shares 70% amino acid sequence identity with mouse and rat IL-15. Alternative splicing generates isoforms of Interleukin 15 with either a long or short signal peptide (LSP or SSP), and the SSP isoform is retained intracellularly (3). The IL-15 protein binds with high affinity to IL-15 R alpha (4). It binds with lower affinity to a complex of IL-2 R beta and the common gamma chain (gamma c) which are also subunits of the IL-2 receptor complex (5). IL-15 associates with IL-15 R alpha in the endoplasmic reticulum, and this complex is expressed on the cell surface (6). The dominant mechanism of IL-15 action is known as transpresentation in which IL-15 and IL-15 R alpha are coordinately expressed on the surface of one cell and interact with complexes of IL-2 R beta / gamma c on adjacent cells (7). This enables cells to respond to Interleukin 15 even if they do not express IL-15 R alpha (6). In human and mouse, soluble IL-15-binding forms of IL-15 R alpha can be generated by proteolytic shedding and bind up nearly all the IL-15 protein in circulation (8-10). Soluble IL-15 R alpha functions as an inhibitor that limits IL-15 action (4, 9). Ligation of membrane-associated IL-15/IL-15 R alpha complexes also induces reverse signaling that promotes activation of the IL-15/IL-15 R alpha expressing cells (11). IL-15 induces or enhances the differentiation, maintenance, or activation of multiple T cell subsets including NK, NKT, Th17, Treg, and CD8+ memory cells (12-16). An important component of these functions is the ability of IL-15 to induce dendritic cell differentiation and inflammatory activation (11, 14). IL-15 exhibits anti-tumor activity independent of its actions on NK cells or CD8+ T cells (17). It also inhibits the deposition of lipid in adipocytes, and its circulating levels are decreased in obesity (18).

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