Human IL-15 Antibody

Monoclonal Mouse IgG_{2A} Clone # 1048222

Catalog Number: MAB2472

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	*E. coli*-derived human IL-15 protein Asn49-Ser162 Accession # P40933.1
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

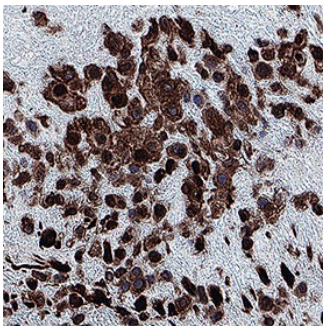
APPLICATIONS

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
Immunocytochemistry	3-25 µg/mL	immersion fixed HeLa human cell line and mouse Raw264 cell line
Immunohistochemistry	3-25 µg/mL	immersion fixed paraffin-embedded sections of human placenta

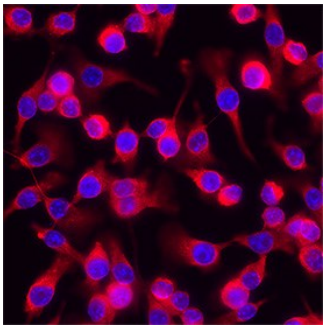
DATA

Immunohistochemistry



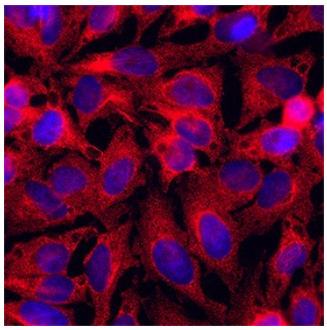
IL-15 in Human Placenta. IL-15 was detected in immersion fixed paraffin-embedded sections of human placenta using Mouse Anti-Human IL-15 Monoclonal Antibody (Catalog # MAB2472) at 5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm and nuclei in decidual cells. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

Immunocytochemistry



IL-15 in RAW264.7 cells. IL-15 was detected in immersion fixed using Mouse Anti-Human IL-15 Monoclonal Antibody (Catalog # MAB2472) at 8 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Immunocytochemistry



IL-15 in HeLa Cells (Human). IL-15 was detected in immersion fixed HeLa cells (human) using Mouse Anti-Human IL-15 Monoclonal Antibody (Catalog # MAB2472) at 8 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

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Human IL-15 Antibody

Monoclonal Mouse IgG_{2A} Clone # 1048222

Catalog Number: MAB2472

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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).

References:

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