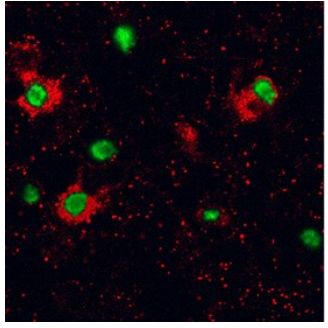
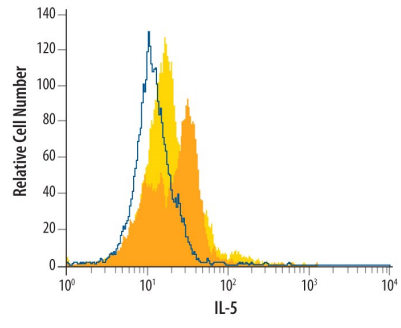


DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human IL-5 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse IL-5 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 9906
Purification	Protein A or G purified from ascites
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human IL-5 Ile20-Ser134 Accession # P05113
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 as a 0.2 µm filtered solution in PBS.

APPLICATIONS		
Please Note: Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.		
	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Human IL-5 (Catalog # 205-IL)
Immunocytochemistry	8-25 µg/mL	See Below
Intracellular Staining by Flow Cytometry	2.5 µg/10 ⁶ cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA	
<p>Immunocytochemistry</p>  <p>IL-5 in Human Peripheral Blood Lymphocytes. IL-5 was detected in immersion fixed human peripheral blood lymphocytes using Mouse Anti-Human IL-5 Monoclonal Antibody (Catalog # MAB605) at 5 µg/mL for 3 hours at room temperature. Cells were stained (red) and counterstained (green). Specific labeling was localized to the cytoplasm of PBMCs. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.</p>	<p>Intracellular Staining by Flow Cytometry</p>  <p>Detection of IL-5 in PMA and Ca²⁺ ionomycin-treated Human PBMCs by Flow Cytometry. Human PBMCs, untreated (light orange filled histogram) or activated with 50 ng/mL PMA and 500 ng/mL Ca²⁺ ionomycin for 5 hours (dark orange filled histogram), were stained with Human IL-5 Monoclonal Antibody (Catalog # MAB605) or isotype control antibody (Catalog # MAB002, open histogram), followed by Fluorescein-conjugated Anti-Mouse IgG F(ab')₂ Secondary Antibody (Catalog # F0103B). To facilitate intracellular staining, cells were fixed with paraformaldehyde and permeabilized with saponin.</p>

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. <ul style="list-style-type: none"> • 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-5 (IL-5) is a secreted glycoprotein that belongs to the α -helical group of cytokines (1 - 3). Unlike other family members, it is present as a covalently linked antiparallel dimer (4, 5). The cDNA for human IL-5 encodes a signal peptide and a 115 amino acid (aa) mature protein. Mature human IL-5 shares 70%, 70%, 62%, 71%, 70% and 66%, aa sequence identity with mouse, rat, canine, equine, feline and porcine IL-5, respectively and shows cross-reactivity with mouse IL-5. IL-5 is primarily produced by CD4⁺ Th2 cells, but also by activated eosinophils, mast cells, EBV-transformed B cells, Reed-Sternberg cells in Hodgkin's disease, and IL-2-stimulated invariant natural killer T cells (iNKT) (1 - 3, 6 - 8). IL-5 increases production and mobilization of eosinophils and CD34⁺ progenitors from the bone marrow and causes maturation of eosinophil precursors outside the bone marrow (1, 6, 9, 10). The receptor for human IL-5, mainly expressed by eosinophils, but also found on basophils and mast cells, consists of a unique ligand-binding subunit (IL-5 R α) and a shared signal-transducing subunit, β c (3, 6, 11). IL-5 R α first binds IL-5 at low affinity, then associates with preformed β c dimers, forming a high-affinity receptor (12). IL-5 also binds proteoglycans, potentially enhancing its activity (13). Soluble forms of IL-5 R α antagonize IL-5 and can be found in vivo (10, 14). In humans, IL-5 primarily affects cells of the eosinophilic lineage, and promotes their differentiation, maturation, activation, migration and survival, while in mice IL-5 also enhances Ig class switching and release from B1 cells (1 - 3, 9, 10, 15, 16). IL-5 also promotes differentiation of basophils and primes them for histamine and leukotriene release (17).

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