

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-22 in direct ELISAs and Western blots. In direct ELISAs, approximately 100% cross-reactivity with recombinant rat IL-22 is observed, 15% cross-reactivity with recombinant human IL-22 is observed, and no cross-reactivity with recombinant mouse IL-10 is observed.
Source	Monoclonal Rat IgG _{2A} Clone # 140301
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant mouse IL-22 Leu34-Val179 Accession # Q9JJY9
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.

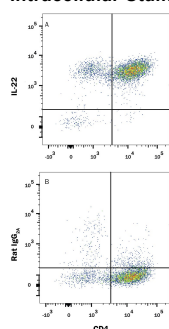
APPLICATIONS

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
Western Blot	1 µg/mL	Recombinant Mouse IL-22 (Catalog # 582-ML)
Intracellular Staining by Flow Cytometry	0.25 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

Intracellular Staining by Flow Cytometry



Detection of IL-22 in Mouse Th17 Splenocytes by Flow Cytometry. Mouse splenocytes differentiated to Th17 cells with plate-bound Rat anti-Mouse CD3e monoclonal antibody (Catalog # [MAB484](#), 5 µg/mL) plus Goat anti-Mouse CD28 (Catalog # [AF483](#), 5 µg/mL), Recombinant Human TGF-β1 (Catalog # [240-B](#), 10 ng/mL), Recombinant Mouse IL-23 (Catalog # [1887-ML](#), 20 ng/mL), Recombinant Mouse IL-6 (Catalog # [406-ML](#), 40 ng/mL), Recombinant Mouse IL-1β (Catalog # [401-ML](#), 10 ng/mL), and Rat anti-Mouse IFN-γ (Catalog # [MAB485](#), 10 µg/mL) for 5 days then re-stimulated with PMA (50 ng/ml), Ca²⁺ Ionomycin (200 ng/ml) and Brefeldin A (5 µg/ml) for 4 hours, were stained with APC-conjugated Rat anti-Mouse CD4 Monoclonal Antibody (Catalog # [FAB554A](#)) and (A) Rat Anti-Mouse IL-22 Monoclonal Antibody (Catalog # [MAB582](#)) or (B) isotype control antibody (Catalog # [MAB006](#)) followed by PE-conjugated Goat anti-Rat secondary antibody (Catalog # [F0105B](#)). To facilitate intracellular staining, cells were fixed and permeabilized with FlowX FoxP3/Transcription Factor Fixation & Perm Buffer Kit (Catalog # [FC012](#)). View our protocol for [Staining Intracellular Molecules](#).

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-22 (IL-22), also known as IL-10-related T cell-derived inducible factor (IL-TIF) was initially identified as a gene induced by IL-9 in mouse T cells and mast cells. Mouse IL-22 cDNA encodes a 179 amino acid (aa) residue protein with a putative 33 aa signal peptide that is cleaved to generate a 147 aa mature protein that shares approximately 79% and 22% aa sequence identity with human IL-22 and IL-10, respectively. The mouse IL-22 gene is localized to chromosome 10. Although it exists as a single copy gene in many mouse strains, the IL-22 gene is duplicated in some mouse strains including C57B1/6, FVB and 129. The two mouse genes designated IL-TIF α and IL-TIF β , share greater than 98% sequence homology in their coding region. IL-22 has been shown to activate STAT-1 and STAT-3 in several hepatoma cell lines and upregulate the production of acute phase proteins. IL-22 is produced by normal mouse T cells upon Con A activation. Mouse IL-22 expression is also induced in various organs upon lipopolysaccharide injection, suggesting that IL-22 may be involved in inflammatory responses. The functional IL-22 receptor complex consists of two receptor subunits, IL-22R (previously an orphan receptor named CRF2-9) and IL-10R β (previously known as CRF2-4), belonging to the class II cytokine receptor family.

References:

1. Dumoutier, L. *et al.* (2000) J. Immunol. **164**:1814.
2. Xie, M-H. *et al.* (2000) J. Biol. Chem. **275**:31335.
3. Dumoutier, L. *et al.* (2000) PNAS **97**:10144.
4. Kotenko, S.V. *et al.* (2001) J. Biol. Chem. **276**:2725.