IOTest IL-4-PE

PN IM2719U – 2 mL – Liquid – 20 µL/test – Clone 4D9

Analyte Specific Reagent.
Analytical and performance characteristics are not established.

SPECIFICITY

Interleukine 4 (IL-4), is a monomeric protein with two potential N-linked glycosylation sites. The level of glycosylation is responsive for molecular weight (Mr) heterogeneity of the molecule ranging from 15 to 19 kDa (1, 2).

The biological effects of IL-4 are mediated by the binding to its specific receptors (IL-4R). The IL-4R is composed of at least two chains, the α chain (CD124) and the γ chain also found in other cytokines receptors (i.e. the IL-2R, IL-7R, IL-9R, IL-13R and IL-15R) (2).

IL-4 is produced by a subset of activated hematopoietic cells, including T lymphocytes, mast cells and basophils (3, 4). IL-4 was initially named BSF-1 (B Cell Stimulating Factor-1), BCGF (B Cell Growth Factor) and BCDF (B Cell Differentiation Factor): In fact, IL-4 participates in the activation, proliferation and differentiation of B lymphocytes. Together with IL-13, IL-4 is an inducer of B-lymphocyte switching to IgE production and probably to particular (non-complement-fixing) IgG isotypes production (5, 6). IL-4 can affect a variety of target cells such as T lymphocytes, monocytes, endothelial cells and fibroblasts (2, 4).

IL-4 is also involved in Th1 – Th2 (T helper 1 –T helper 2) cytokine pathways regulating Th2 cells as an autocrine growth factor (3 – 5, 7 – 9). The cytokines produced by Th1 and Th2 lymphocyte subsets ($CD4^+$ lymphocytes) determine a symetrical pathway of the immune response. Activated $CD4^+$ lymphocytes of the Th1 profile secrete IL-2, IFNγ (Interferon γ) and TNFβ (Tumor Necrosis Factor β): They are reported to be involved in cellular immunity and delayed type hypersensitivity reactions (DHT). Activated $CD4^+$ lymphocytes of the Th2 profile produce IL-4, IL-5, IL-6 and IL-10. Th2 profile of cytokines secretion is known to be responsive for humoral immune responses, allergy, enhancement of antibody production (particu-larly IgE response), and promotion of eosinophils proliferation and function (7). Th1 and Th2 pathways each enhances the development of cells pertaining to the same subset while suppress the expansion and / or effector functions of the other subset (6, 10, 11).

Th1 or Th2 cytokine profiles are not specifically produced by Th lymphocytes, but also by Tc lymphocytes allowing to generalize the nomenclature (8): Th1- or Th2-like cytokines profile may be termed Type 1 or Type 2 response (6 – 8, 10).

REAGENT

IOTest IL-4-PE Conjugated antibody
PN IM2719U - 2 mL - Liquid - 20 µL/test

Clone	4D9
Isotype	IgG1, Mouse
Immunogen	Recombinant human IL-4
Hybridoma	NS0 or PAI x balb/c
Source	Serum-free culture supernatant
Purification	Affinity chromatography
Conjugation	R Phycoerythrin (PE)
Molar Ratio	PE / Ig : 0.5 - 1.5
Fluorescence	Excites at 488 nm Emits at 575 nm

REAGENT CONTENTS

This antibody is provided in phosphate-buffered saline, containing 0.1% sodium azide and 2 mg/mL bovine serum albumin.

STATEMENTS OF WARNING

1. This reagent contains 0.1% sodium azide. Sodium azide under acid conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, wash excessively with water.
2. Specimens, samples and all material coming in contact with them should be considered potentially infectious and disposed of with proper precautions.
3. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.
4. Do not use antibody beyond the expiration date on the label.
5. Do not expose reagents to strong light during storage or incubation.
6. Avoid microbial contamination of reagents or incorrect results might occur.
7. Use good laboratory practices when handling this reagent.

STORAGE AND HANDLING CONDITIONS AND STABILITY

This reagent is stable up to the expiration date when stored at 2 – 8°C. Do not freeze.
No reconstitution is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 18 – 25°C prior to use.

SELECTED RESEARCH REFERENCES

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