

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat IL-9 in direct ELISAs and Western blots. In direct ELISAs, approximately 30% cross-reactivity with recombinant mouse IL-9 is observed, and approximately 10% cross-reactivity with recombinant human IL-9 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat IL-9 Gln19-Ala144 Accession # NP_001099217
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 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.

CyTOF-ready	Optimal dilution of this antibody should be experimentally determined.
Neutralization	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Intracellular Staining by Flow Cytometry	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

Rat interleukin-9 (IL-9; also T-cell growth factor P40 and MEA) is a 20-30 kDa secreted glycoprotein that belongs to the IL-7/IL-9 family of hematopoietic cytokines. It is best considered an atypical Th2-type cytokine (1-4). Rat IL-9 was initially isolated from the 4437A rat thymoma cell line (5). The IL-9 precursor is 144 amino acids (aa) in length and contains an 18 aa signal sequence plus a 126 aa mature segment (5). An extended, 219 aa alternate precursor form is reported in GenBank (Accession # XP_001068265). It shows a 113 aa substitution for the first 38 aa of the standard form. Its significance is unknown. Mature rat IL-9 is 75%, 74% and 58% aa identical to cotton rat, mouse and human IL-9, respectively (6-9). There is variability in cross-species reactivity. Canine and mouse IL-9 are purportedly active on human cells (9-11), while human IL-9 is inactive on mouse cells (9). Cells reported to express IL-9 include activated CD4+ T cells and eosinophils (12, 13). The receptor for rat IL-9 is composed of the 62 kDa rat IL-9Rα chain and the 64 kDa rat common cytokine receptor γ-chain (5, 14, 15). IL-9 is suggested to play a significant, but likely supporting role in allergy and asthma. Its synthesis is induced upon exposure to allergen (10, 13). Following release, it is known to upregulate IgE production by IL-4-stimulated B cells (16). It also stimulates mucin secretion and IL-13 production through a direct action on respiratory epithelium (10, 17). In the bone marrow, it promotes eosinophilia, likely through IL-5 induction (18, 19). And once produced, eosinophils are chemoattracted to the bronchi through the IL-9-induced secretion of eotaxin-1 by airway smooth muscle cells (20).

PRODUCT SPECIFIC NOTICES

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