

## IL-9 (H-7): sc-46654

### BACKGROUND

Interleukin-9, or IL-9, is a TH2 cytokine that has been shown to promote the antigen-independent growth of some T helper clones. IL-9 is a pleiotropic cytokine with multiple functions on cells of lymphoid, myeloid and mast cell lineages. Both mouse and human cDNAs encode 144 amino acid precursors with 18 amino acid residue signal peptides that are cleaved to form the mature biologically active glycoprotein. Although IL-9 is constitutively expressed *in vitro* by several transformed T cell lines, IL-9 expression can be induced in human peripheral blood T lymphocytes by T cell activators such as phorbol esters (PHA) and anti-CD3 antibodies. IL-9 exerts its biological effects through the interleukin-9 receptor, IL-9R. IL-9R is composed of at least two subunits: the IL-2 receptor  $\gamma$  chain, which is common to the IL-2, IL-4, IL-7 and IL-15 receptors, and one specific to the IL-9 receptor.

### REFERENCES

1. Van Snick, J., et al. 1989. Cloning and characterization of a cDNA for a new mouse T cell growth factor (P40). *J. Exp. Med.* 169: 363-368.
2. Renaud, J.C., et al. 1990. Cloning and expression of a cDNA for the human homolog of mouse T cell and mast cell growth factor P40. *Cytokine* 2: 9-12.
3. Gessner, A., et al. 1993. Differential regulation of IL-9-expression after infection with *Leishmania* major in susceptible and resistant mice. *Immunobiology* 189: 419-435.
4. Houssiau, F.A., et al. 1995. A cascade of cytokines is responsible for IL-9 expression in human T cells. Involvement of IL-2, IL-4 and IL-10. *J. Immunol.* 154: 2624-2630.
5. Louahed, J., et al. 1995. IL-9 induces expression of granzymes and high-affinity IgE receptor in murine T helper clones. *J. Immunol.* 154: 5061-5070.
6. Kimura, Y., et al. 1995. Sharing of the IL-2 receptor  $\gamma$  chain with the functional IL-9 receptor complex. *Int. Immunol.* 7: 115-120.

### CHROMOSOMAL LOCATION

Genetic locus: IL9 (human) mapping to 5q31.1.

### SOURCE

IL-9 (H-7) is a mouse monoclonal antibody raised against amino acids 19-140 of IL-9 of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IL-9 (H-7) is available conjugated to agarose (sc-46654 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-46654 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-46654 PE), fluorescein (sc-46654 FITC), Alexa Fluor<sup>®</sup> 488 (sc-46654 AF488), Alexa Fluor<sup>®</sup> 546 (sc-46654 AF546), Alexa Fluor<sup>®</sup> 594 (sc-46654 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-46654 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-46654 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-46654 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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### APPLICATIONS

IL-9 (H-7) is recommended for detection of IL-9 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IL-9 siRNA (h): sc-39632, IL-9 shRNA Plasmid (h): sc-39632-SH and IL-9 shRNA (h) Lentiviral Particles: sc-39632-V.

Molecular Weight (predicted) of IL-9: 14 kDa.

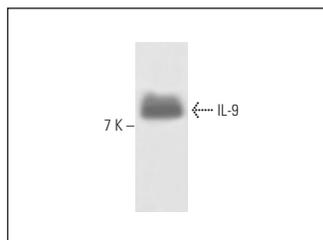
Molecular Weight (observed) of IL-9: 40 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233.

### RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

### DATA



IL-9 (H-7): sc-46654. Western blot analysis of human recombinant IL-9.

### STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.