

# IL-7R (G-11): sc-514445

## BACKGROUND

Interleukin 7 (IL-7) was originally described as a factor capable of inducing *in vitro* proliferation of pre-B cells from marrow cultures. The IL-7 gene encodes a protein 177 amino acids in length. IL-7 exerts its biological function through the IL-7 receptor which is expressed on pre-B cells, thymocytes and bone marrow-derived macrophages. The IL-7 receptor is composed of an IL-7 receptor-specific chain and the IL-2 receptor  $\gamma$  chain common to the IL-2, IL-4, IL-7, IL-9 and IL-15 receptors. IL-7 stimulation leads to the activation of Janus tyrosine kinase family members JAK1 and JAK3. Other studies have shown that in T cells, the IL-7 receptor-specific chain associates with the Src kinases family Lck and Fyn. IL-7 induces phosphorylation of insulin receptor substrate-1 (IRS-1) and Insulin receptor substrate-2 (IRS-2), originally called 4PS.

## CHROMOSOMAL LOCATION

Genetic locus: IL7R (human) mapping to 5p13.2; Il7r (mouse) mapping to 15 A1.

## SOURCE

IL-7R (G-11) is a mouse monoclonal antibody raised against amino acids 1-215 of IL-7R of human origin.

## PRODUCT

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

IL-7R (G-11) is available conjugated to agarose (sc-514445 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514445 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514445 PE), fluorescein (sc-514445 FITC), Alexa Fluor<sup>®</sup> 488 (sc-514445 AF488), Alexa Fluor<sup>®</sup> 546 (sc-514445 AF546), Alexa Fluor<sup>®</sup> 594 (sc-514445 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-514445 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-514445 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-514445 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

IL-7R (G-11) is recommended for detection of IL-7R of mouse, rat and 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-7R siRNA (h): sc-35664, IL-7R siRNA (m): sc-35665, IL-7R shRNA Plasmid (h): sc-35664-SH, IL-7R shRNA Plasmid (m): sc-35665-SH, IL-7R shRNA (h) Lentiviral Particles: sc-35664-V and IL-7R shRNA (m) Lentiviral Particles: sc-35665-V.

Molecular Weight of IL-7R heterodimer: 90 kDa.

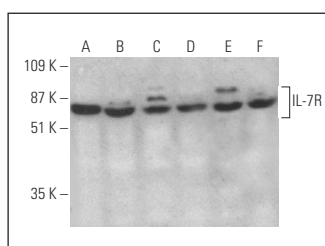
Molecular Weight of p76 IL-7R $\alpha$  subunit: 76 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, BJAB whole cell lysate: sc-2207 or Jurkat whole cell lysate: sc-2204.

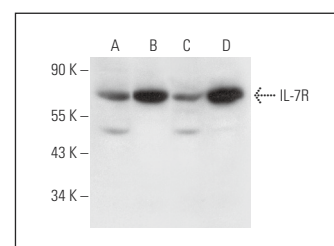
## RECOMMENDED SUPPORT REAGENTS

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-7R (G-11) HRP: sc-514445 HRP. Direct western blot analysis of IL-7R expression in BJAB (A), Jurkat (B), K-562 (C), AML-193 (D), HeLa (E) and IB4 (F) whole cell lysates.



IL-7R (G-11): sc-514445. Western blot analysis of IL-7R expression in K-562 (A), BJAB (B), AML-193 (C) and Jurkat (D) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Jian, M., et al. 2019. Interleukin 7 receptor activates PI3K/Akt/mTOR signaling pathway via downregulation of Beclin-1 in lung cancer. *Mol. Carcinog.* 58: 358-365.
- Kim, S.J., et al. 2020. Macrophages are the primary effector cells in IL-7-induced arthritis. *Cell. Mol. Immunol.* 17: 728-740.
- Sun, Z., et al. 2022. Research note: development and characterization of monoclonal antibodies specific for chicken interleukin-7 receptor  $\alpha$  (CD127). *Poult. Sci.* 101: 102047.
- Kitamura, Y., et al. 2023. Roles of IL-7R induced by interactions between cancer cells and macrophages in the progression of esophageal squamous cell carcinoma. *Cancers* 15: 394.

## 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.