

# Reg III $\alpha$ / $\gamma$ (B-10): sc-377038

## BACKGROUND

The regeneration (Reg) family consists of secretory proteins involved in liver, pancreatic, gastric and intestinal cell proliferation or differentiation. Members of the Reg family are divided into four subclasses, designated types I, II, III and IV, all of which share a common gene structure containing five introns and six exons. Members of the Reg family have been implicated in the regulation of cell growth, tumorigenesis and the progression of cancer. Reg III $\gamma$  (regenerating islet-derived 3  $\gamma$ ), also known as pancreatitis-associated protein 1B, PAP1B, or UNQ429, is a 175 amino acid secreted protein that is expressed almost exclusively in pancreas, with low levels of expression in testis. Reg III $\gamma$  functions as an antimicrobial protein involved in controlling bacterial proliferation and may be induced during acute pancreatitis. The gene encoding Reg III $\gamma$  maps to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome.

## REFERENCES

- Narushima, Y., et al. 1997. Structure, chromosomal localization and expression of mouse genes encoding type III Reg, RegIII  $\alpha$ , RegIII  $\beta$ , RegIII  $\gamma$ . *Gene* 185: 159-168.
- Zhang, Y.W., et al. 2003. Reg gene family and human diseases. *World J. Gastroenterol.* 9: 2635-2641.
- Nata, K., et al. 2004. Molecular cloning, expression and chromosomal localization of a novel human Reg family gene, Reg III. *Gene* 340: 161-170.
- Laurine, E., et al. 2005. PAP IB, a new member of the Reg gene family: cloning, expression, structural properties, and evolution by gene duplication. *Biochim. Biophys. Acta* 1727: 177-187.
- Cash, H.L., et al. 2006. Symbiotic bacteria direct expression of an intestinal bactericidal lectin. *Science* 313: 1126-1130.

## CHROMOSOMAL LOCATION

Genetic locus: REG3A/REG3G (human) mapping to 2p12; Reg3a/Reg3g (mouse) mapping to 6 C3.

## SOURCE

Reg III $\alpha$ / $\gamma$  (B-10) is a mouse monoclonal antibody raised against amino acids 107-175 mapping at the C-terminus of Reg III $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Reg III $\alpha$ / $\gamma$  (B-10) is available conjugated to agarose (sc-377038 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377038 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377038 PE), fluorescein (sc-377038 FITC), Alexa Fluor<sup>®</sup> 488 (sc-377038 AF488), Alexa Fluor<sup>®</sup> 546 (sc-377038 AF546), Alexa Fluor<sup>®</sup> 594 (sc-377038 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-377038 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-377038 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-377038 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## APPLICATIONS

Reg III $\alpha$ / $\gamma$  (B-10) is recommended for detection of Reg III $\alpha$  and Reg III $\gamma$  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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Reg III $\alpha$ : 19 kDa.

Molecular Weight of Reg III $\gamma$ : 16 kDa.

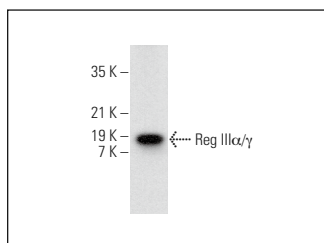
Positive Controls: mouse pancreas extract: sc-364244.

## RECOMMENDED SUPPORT REAGENTS

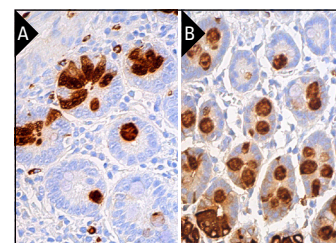
To ensure optimal results, the following support reagents are recommended:

- 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.
- Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 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.
- Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Reg III $\alpha$ / $\gamma$  (B-10): sc-377038. Western blot analysis of Reg III $\alpha$ / $\gamma$  expression in mouse pancreas tissue extract.



Reg III $\alpha$ / $\gamma$  (B-10): sc-377038. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine (A) and human duodenum (B) tissue showing cytoplasmic staining of goblet cells and Paneth cells.

## SELECT PRODUCT CITATIONS

- Fu, Y., et al. 2022. Paneth cells protect against acute pancreatitis via modulating gut microbiota dysbiosis. *mSystems* 7: e0150721.

## 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.