

# galectin-3 (A3A12): sc-53127

## BACKGROUND

Galectins are a family of soluble  $\beta$ -galactoside-binding animal lectins that modulate cell-to-cell adhesion and cell-to-extracellular matrix (ECM) interactions and play a role in tumor progression, pre-mRNA splicing and apoptosis. The galectin-3 protein, also known as Mac-2, hMac-2, GALBP, CBP35 or LGALS3, contains a single carbohydrate binding domain, which binds galactose-containing glycoconjugates. Galectin-3 is expressed in colonic and intestinal epithelium, inflammatory macrophages, papillary and follicular carcinomas, neoplastic astrocytes and some B and T lymphocytes. Upregulated expression of galectin-3 is involved in cancer progression and metastasis. Galectin-3 mediates the endocytosis of  $\beta$ 1 Integrins in a lactose-dependent manner and is associated with thyroid malignancy and Crohn's disease. It may also be used as a marker for diagnosing cases involving Hurthle cell adenomas and carcinomas.

## CHROMOSOMAL LOCATION

Genetic locus: LGALS3 (human) mapping to 14q22.3; Lgals3 (mouse) mapping to 14 C1.

## SOURCE

galectin-3 (A3A12) is a mouse monoclonal antibody raised against full length galectin-3 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.

galectin-3 (A3A12) is available conjugated to agarose (sc-53127 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53127 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53127 PE), fluorescein (sc-53127 FITC), Alexa Fluor<sup>®</sup> 488 (sc-53127 AF488), Alexa Fluor<sup>®</sup> 546 (sc-53127 AF546), Alexa Fluor<sup>®</sup> 594 (sc-53127 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-53127 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-53127 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-53127 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

galectin-3 (A3A12) is recommended for detection of galectin-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

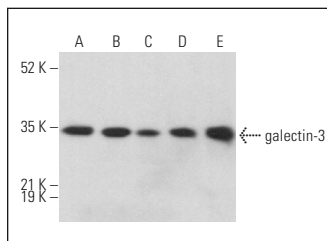
Suitable for use as control antibody for galectin-3 siRNA (h): sc-155994, galectin-3 siRNA (m): sc-35443, galectin-3 shRNA Plasmid (h): sc-155994-SH, galectin-3 shRNA Plasmid (m): sc-35443-SH, galectin-3 shRNA (h) Lentiviral Particles: sc-155994-V and galectin-3 shRNA (m) Lentiviral Particles: sc-35443-V.

Molecular Weight of galectin-3: 31 kDa.

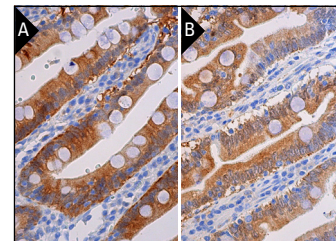
## STORAGE

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

## DATA



galectin-3 (A3A12): sc-53127. Western blot analysis of galectin-3 expression in HeLa (A) and SW480 (B) nuclear extracts and A-431 (C), MCF7 (D) and HeLa (E) whole cell lysates. Detection reagent used: m-IgGx BP-HRP: sc-516102.



galectin-3 (A3A12): sc-53127. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum (A) and human small intestine (B) tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

1. Straube, T., et al. 2011. Changes in the expression and subcellular distribution of galectin-3 in clear cell renal cell carcinoma. *J. Exp. Clin. Cancer Res.* 30: 89.
2. Gao, X., et al. 2012. The two endocytic pathways mediated by the carbohydrate recognition domain and regulated by the collagen-like domain of galectin-3 in vascular endothelial cells. *PLoS ONE* 7: e52430.
3. Kiyota, M., et al. 2013. FTY720 induces apoptosis of chronic myelogenous leukemia cells via dual activation of BIM and BID and overcomes various types of resistance to tyrosine kinase inhibitors. *Apoptosis* 18: 1437-1446.
4. Hoja-Lukowicz, D., et al. 2014. The lectin-binding pattern of nucleolin and its interaction with endogenous galectin-3. *Cell. Mol. Biol. Lett.* 19: 461-482.
5. Fritsch, K., et al. 2016. Galectin-3 interacts with components of the nuclear ribonucleoprotein complex. *BMC Cancer* 16: 502.
6. Tang, M.R., et al. 2018. Identification of CD24 as a marker for tumorigenesis of melanoma. *Oncotargets Ther.* 11: 3401-3406.
7. Zhang, Z., et al. 2018. CD146 interacts with galectin-3 to mediate endothelial cell migration. *FEBS Lett.* 592: 1817-1828.
8. Zhu, X., et al. 2019. Potential injurious effects of the fine particulate PM2.5 on the progression of atherosclerosis in apoE-deficient mice by activating platelets and leukocytes. *Arch. Med. Sci.* 15: 250-261.
9. Burbidge, K., et al. 2021. LGALS3 (galectin 3) mediates an unconventional secretion of SNCA/ $\alpha$ -synuclein in response to lysosomal membrane damage by the autophagic-lysosomal pathway in human midbrain dopamine neurons. *Autophagy*. E-published.

## RESEARCH USE

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

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