

# St3Gal-II (34-K): sc-100856

## BACKGROUND

Cell type-specific expression of unique carbohydrate structures on cell surface glycoproteins and glycolipids provides information relevant to cell-cell interactions in developing and adult organisms. Sialyltransferases contribute to the diversity of carbohydrate structures through their attachment of sialic acid to various terminal positions on glycolipid and glycoprotein (N-linked and O-linked) carbohydrate groups. St3Gal-II (St3  $\beta$ -galactoside  $\alpha$ -2,3-sialyltransferase 2), also known as SIAT4B, Gal-NAc6S, ST3GAL2 or ST3GAL $\alpha$ .2, is a member of the glycosyltransferase 29 family of proteins. Predominantly expressed in heart and skeletal muscle, St3Gal-II exists as a single-pass membrane protein localizing to the Golgi apparatus. In addition to forward sialylation reactions (the transfer of NeuAc from CMP-NeuAc to galactose-containing substrates), St3Gal-II readily catalyzes reversible sialylation reactions (the transfer of NeuAc from sialylated donors to CMP (cytidine 5'-monophosphate)). This reverse reaction provides newly synthesized CMP-NeuAc which is then available for transfer to another acceptor.

## REFERENCES

- Chang, M.L., et al. 1995. Three genes that encode human  $\beta$ -galactoside  $\alpha$  2,3-sialyltransferases. Structural analysis and chromosomal mapping studies. *Glycobiology* 5: 319-325.
- Kim, Y.J., et al. 1996. Molecular cloning and expression of human Gal  $\beta$ -1,3-GalNAc  $\alpha$  2,3-sialyltransferase (hSt3Gal II). *Biochem. Biophys. Res. Commun.* 228: 324-327.
- Giordanengo, V., et al. 1997. Cloning and expression of cDNA for a human Gal( $\beta$ 1-3)GalNAc  $\alpha$ 2,3-sialyltransferase from the CEM T-cell line. *Eur. J. Biochem.* 247: 558-566.
- Saito, S., et al. 2003. Human  $\alpha$ 2,3-sialyltransferase (St3Gal-II) is a stage-specific embryonic antigen-4 synthase. *J. Biol. Chem.* 278: 26474-26479.
- Taniguchi, A., et al. 2003. Genomic structure, expression, and transcriptional regulation of human Gal  $\beta$ -1,3-GalNAc  $\alpha$  2,3-sialyltransferase gene. *Biochem. Biophys. Res. Commun.* 300: 570-576.
- Matsushita, T., et al. 2006. Construction of highly glycosylated Mucin-type glycopeptides based on microwave-assisted solid-phase syntheses and enzymatic modifications. *J. Org. Chem.* 71: 3051-3063.

## CHROMOSOMAL LOCATION

Genetic locus: ST3GAL2 (human) mapping to 16q22.1.

## SOURCE

St3Gal-II (34-K) is a mouse monoclonal antibody raised against recombinant St3Gal-II of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

St3Gal-II (34-K) is recommended for detection of St3Gal-II of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for St3Gal-II siRNA (h): sc-93118, St3Gal-II shRNA Plasmid (h): sc-93118-SH and St3Gal-II shRNA (h) Lentiviral Particles: sc-93118-V.

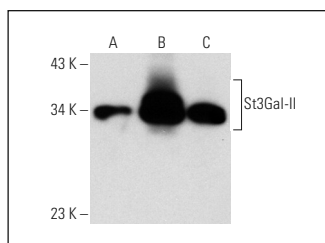
Molecular Weight of St3Gal-II: 40 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or St3Gal-II (h): 293T lysate: sc-115398.

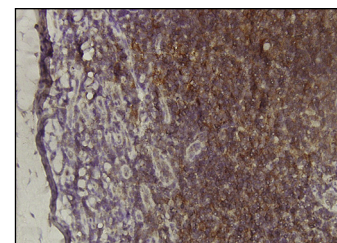
## RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 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



St3Gal-II (34-K): sc-100856. Western blot analysis of St3Gal-II expression in non-transfected 293T: sc-117752 (A), human St3Gal-II transfected 293T: sc-115398 (B) and K-562 (C) whole cell lysates.



St3Gal-II (34-K): sc-100856. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human tonsil tissue showing cytoplasmic localization.

## STORAGE

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

## PROTOCOLS

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