SANTA CRUZ BIOTECHNOLOGY, INC.

FucT-IV (A-10): sc-393007

BACKGROUND

Fucosyltransferases (FucTs) catalyze the covalent association of fucose to different positional linkages on sugar acceptor molecules. The carbohydrate moieties that are generated are covalently attached to cell surfaces and are necessary to ensure a surface contour that satisfies a variety of physiological roles. FucT-IV (α 1,3-fucosyltransferase IV), also known as FUT4, FCT3A or ELFT, is a 405 amino acid single-pass type II membrane protein that localizes to golgi stacks. During embryogenesis, FucT-IV is highly expressed in skin, liver, kidney, muscle and small intestine where it functions to catalyze the glycosidic attachment of α-fucose to various molecules, such as N-acetyllactosamines. Via its catalytic activity, FucT-IV participates in the synthesis of carbohydrate molecules like the cell-adhesion antigen CD15 (also known as Lewis X), thereby playing a roll in cell cycle events such as apoptosis and cell-cell binding. Overexpression of FucT-IV is implicated in epithelial cancers, suggesting a possible role for FucT-IV in carcinogenesis.

REFERENCES

1. Stocks, S.C., et al. 1990. Expression of the CD15 differentiation antigen (3-fucosyl-N-acetyl-lactosamine, Le^X) on putative neutrophil adhesion molecules CR3 and NCA-160. Biochem. J. 268. 275-280.
2. Wagers, A.J. and Kansas, G.S. 2000. Potent induction of α (1,3)-fucosyltransferase VII in activated $CD4^+$ T cells by TGFβ1 through a p38 mitogen-activated protein kinase-dependent pathway. J. Immunol. 165: 5011-5016.
3. Taniguchi, A., et al. 2000. Expression and transcriptional regulation of the human α1, 3-fucosyltransferase 4 (FUT4) gene in myeloid and colon adenocarcinoma cell lines. Biochem. Biophys. Res. Commun. 273: 370-376.

CHROMOSOMAL LOCATION

Genetic locus: Fut4 (mouse) mapping to 9 A2.

SOURCE

FucT-IV (A-10) is a mouse monoclonal antibody raised against amino acids 1-234 mapping at the N-terminus of FucT-IV of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FucT-IV (A-10) is available conjugated to agarose (sc-393007 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393007 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393007 PE), fluorescein (sc-393007 FITC), Alexa Fluor® 488 (sc-393007 AF488), Alexa Fluor® 546 (sc-393007 AF546), Alexa Fluor® 594 (sc-393007 AF594) or Alexa Fluor® 647 (sc-393007 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393007 AF680) or Alexa Fluor® 790 (sc-393007 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

FucT-IV (A-10) is recommended for detection of FucT-IV of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 FucT-IV siRNA (m): sc-105376, FucT-IV shRNA Plasmid (m): sc-105376-SH and FucT-IV shRNA (m) Lentiviral Particles: sc-105376-V.

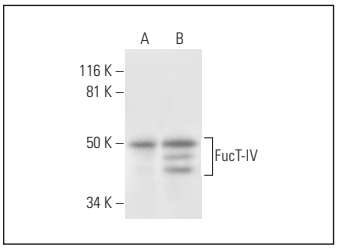
Molecular Weight of FucT-IV: 45 kDa.

Positive Controls: rat liver extract: sc-2395 or mouse liver extract: sc-2256.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



FucT-IV (A-10): sc-393007. Western blot analysis of FucT-IV expression in rat liver (**A**) and mouse liver (**B**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Radziejewska, I., et al. 2021. Anti-cancer effect of combined action of anti-MUC1 and rosmarinic acid in AGS gastric cancer cells. Eur. J. Pharmacol. 902: 174119.
2. Radziejewska, I., et al. 2023. Tiliroside combined with anti-MUC1 monoclonal antibody as promising anti-cancer strategy in AGS cancer cells. Int. J. Mol. Sci. 24: 13036.

STORAGE

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