SANTA CRUZ BIOTECHNOLOGY, INC.

FUCA1 (G-12): sc-365496

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

FUCA1 (fucosidase, α-L-1, tissue) is a 466 amino acid membrane and seminal-associated isozyme that is a member of the glycosyl hydrolase 29 family. FUCA1 functions as a homotetramer and is responsible for hydrolyzing and reducing the carbohydrate moieties of glycoproteins in various tissues. Defects in the gene encoding FUCA1 result in fucosidosis, an autosomal recessive disorder caused by an accumulation of fucose-containing glycolipids and glycoproteins. Fucosidosis, a lysosomal storage disease, is characterized by neurologic deterioration, growth retardation, visceromegaly and seizures. Early onset of fucosidosis causes coarse facial features, angiokeratoma corporis diffusum, spasticity, delayed psychomotor development and an unusual spondylometaphyseoepiphyseal dysplasia.

CHROMOSOMAL LOCATION

Genetic locus: FUCA1 (human) mapping to 1p36.11; Fuca1 (mouse) mapping to 4 D3.

SOURCE

FUCA1 (G-12) is a mouse monoclonal antibody raised against amino acids 151-237 mapping within an internal region of FUCA1 of human origin.

PRODUCT

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

FUCA1 (G-12) is available conjugated to agarose (sc-365496 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365496 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365496 PE), fluorescein (sc-365496 FITC), Alexa Fluor® 488 (sc-365496 AF488), Alexa Fluor® 546 (sc-365496 AF546), Alexa Fluor® 594 (sc-365496 AF594) or Alexa Fluor® 647 (sc-365496 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365496 AF680) or Alexa Fluor® 790 (sc-365496 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

FUCA1 (G-12) is recommended for detection of FUCA1 of mouse, rat and human 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), 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 FUCA1 siRNA (h): sc-78583, FUCA1 siRNA (m): sc-145267, FUCA1 shRNA Plasmid (h): sc-78583-SH, FUCA1 shRNA Plasmid (m): sc-145267-SH, FUCA1 shRNA (h) Lentiviral Particles: sc-78583-V and FUCA1 shRNA (m) Lentiviral Particles: sc-145267-V.

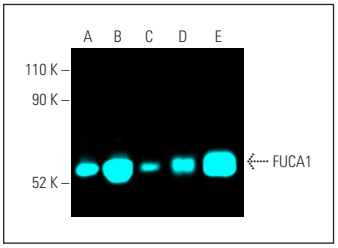
Molecular Weight of FUCA1: 56 kDa.

Positive Controls: T24 cell lysate: sc-2292, KNRK whole cell lysate: sc-2214 or SK-MEL-28 cell lysate: sc-2236.

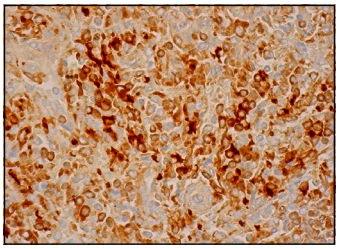
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-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-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGλ BP-HRP: sc-516132 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



FUCA1 (G-12) Alexa Fluor® 647: sc-365496 AF647. Direct fluorescent western blot analysis of FUCA1 expression in T24 (**A**), KNRK (**B**) and SK-MEL-28 (**C**) whole cell lysates and rat testis (**D**) and human spleen (**E**) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214.



FUCA1 (G-12): sc-365496. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in red pulp.

SELECT PRODUCT CITATIONS

1. Ezawa, I., et al. 2016. Novel p53 target gene FUCA1 encodes a fucosidase and regulates growth and survival of cancer cells. Cancer Sci. 107: 734-745.
2. Chen, M., et al. 2023. Comparative site-specific N-glycoproteome analysis reveals aberrant N-glycosylation and gives insights into mannose-6-phosphate pathway in cancer. Commun. Biol. 6: 48.

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 for detailed protocols and support products.