SANTA CRUZ BIOTECHNOLOGY, INC.

CFTR (GA1): sc-20074

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CFTR, for cystic fibrosis transmembrane conductance regulator, is a cyclic adenosine monophosphate (cAMP)-regulated chloride channel protein. CFTR belongs to the MDR subfamily within the ATP-binding transport protein family. It has two transmembrane domains (TMDs), two nucleotide binding domains (NBDs) and one regulatory domain. Mutations of CFTR are associated with cystic fibrosis (CF), a disease characterized by chronic bronchopulmonary disease, elevated sweat electrolytes and insufficient pancreatic function. CFTR mutations can also result in congenital bilateral absence of vas deferens (CBAVD), a form of male sterility that a majority of male CF patients exhibit.

REFERENCES

1. Riordan, J.R., et al. 1989. Identification of the cystic fibrosis gene: cloning and characterization of complementary DNA. Science 245: 1066-1073.
2. Tsui, L.C. 1992. The spectrum of cystic fibrosis mutations. Trends Genet. 8: 392-398.
3. Gabriel, S.E., et al. 1993. CFTR and outward rectifying chloride channels are distinct proteins with a regulatory relationship. Nature 363: 263-268.
4. Hoof, T., et al. 1994. Cystic fibrosis-type mutational analysis in the ATP-binding cassette transporter signature of human P-glycoprotein MDR1. J. Biol. Chem. 269: 20575-20583.
5. Kunzelmann, K. 1999. The cystic fibrosis transmembrane conductance regulator and its function in epithelial transport. Rev. Physiol. Biochem. Pharmacol. 137: 1-70.

CHROMOSOMAL LOCATION

Genetic locus: CFTR (human) mapping to 7q31.2.

SOURCE

CFTR (GA1) is a mouse monoclonal antibody raised against C-terminal recombinant human CTFR protein, corresponding to amino acids 1387-1480, requires amino acids 1445-1460.

PRODUCT

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

APPLICATIONS

CFTR (GA1) is recommended for detection of CFTR of human origin by Western Blotting (starting dilution 1:200, 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

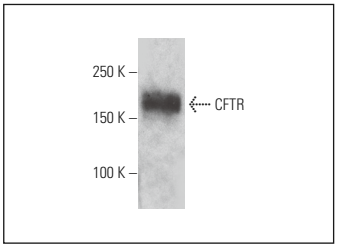
Suitable for use as control antibody for CFTR siRNA (h): sc-35054, CFTR shRNA Plasmid (h): sc-35054-SH and CFTR shRNA (h) Lentiviral Particles: sc-35054-V.

Molecular Weight of CFTR: 165 kDa.

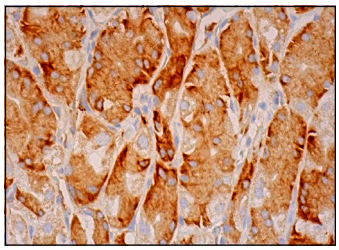
STORAGE

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

DATA



CFTR (GA1): sc-20074. Western blot analysis of CFTR expression in CFTR-transfected BHK cells.



CFTR (GA1): sc-20074. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Ganeshan, R., et al. 2007. CFTR surface expression and chloride currents are decreased by inhibitors of N-WASP and actin polymerization. Biochim. Biophys. Acta 1773: 192-200.
2. Sharma, N., et al. 2016. A sequence upstream of canonical PDZ-binding motif within CFTR COOH-terminus enhances NHERF1 interaction. Am. J. Physiol. Lung Cell. Mol. Physiol. 311: L1170-L1182.

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.

CONJUGATES

See **CFTR (A-3): sc-376683** for CFTR antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.