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CFTR

Mouse Monoclonal antibody(Mab)
Catalog # AD80156

Product Information

Application	IHC-P
Primary Accession	P13569
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	899E1F2
Calculated MW	168142

Additional Information

Gene ID	1080
Gene Name	CFTR
Other Names	Cystic fibrosis transmembrane conductance regulator, CFTR, ATP-binding cassette sub-family C member 7, Channel conductance-controlling ATPase, 5.6.1.6, cAMP-dependent chloride channel, CFTR, ABCC7
Dilution	IHC-P~~Ready-to-use
Storage	Maintain refrigerated at 2-8°C.
Precautions	CFTR Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CFTR (HGNC:1884)
Synonyms	ABCC7
Function	Epithelial ion channel that plays an important role in the regulation of epithelial ion and water transport and fluid homeostasis (PubMed:26823428). Mediates the transport of chloride ions across the cell membrane (PubMed:10792060, PubMed:11524016, PubMed:11707463, PubMed:12519745, PubMed:12529365, PubMed:12588899, PubMed:12727866, PubMed:15010471, PubMed:17036051, PubMed:1712898, PubMed:17182731, PubMed:19398555, PubMed:19621064, PubMed:22178883, PubMed:25330774, PubMed:26846474, PubMed:28087700, PubMed:8910473, PubMed:9804160). Possesses an intrinsic ATPase activity and utilizes ATP to gate its channel; the passive flow of anions through the channel is gated by cycles of ATP binding and hydrolysis by the ATP-binding domains (PubMed:11524016, PubMed:15284228, PubMed:26627831, PubMed:8910473). The ion channel is also permeable to HCO(3)(-); selectivity depends on the extracellular chloride

concentration (PubMed:15010471, PubMed:19019741). In vitro, mediates ATP-dependent glutathione flux (PubMed:12727866). Exerts its function also by modulating the activity of other ion channels and transporters (PubMed:12403779, PubMed:22121115, PubMed:22178883, PubMed:27941075). Plays an important role in airway fluid homeostasis (PubMed:16645176, PubMed:19621064, PubMed:26823428). Contributes to the regulation of the pH and the ion content of the airway surface fluid layer and thereby plays an important role in defense against pathogens (PubMed:14668433, PubMed:16645176, PubMed:26823428). Modulates the activity of the epithelial sodium channel (ENaC) complex, in part by regulating the cell surface expression of the ENaC complex (PubMed:17182731, PubMed:17434346, PubMed:27941075). Inhibits the activity of the ENaC channel containing subunits SCNN1A, SCNN1B and SCNN1G (PubMed:17182731). Inhibits the activity of the ENaC channel containing subunits SCNN1D, SCNN1B and SCNN1G, but not of the ENaC channel containing subunits SCNN1A, SCNN1B and SCNN1G (PubMed:17182731, PubMed:27941075). May regulate bicarbonate secretion and salvage in epithelial cells by regulating the transporter SLC4A7 (PubMed:12403779). Can inhibit the chloride channel activity of ANO1 (PubMed:22178883). Plays a role in the chloride and bicarbonate homeostasis during sperm epididymal maturation and capacitation (PubMed:19923167, PubMed:27714810, PubMed:29393851).

Cellular Location

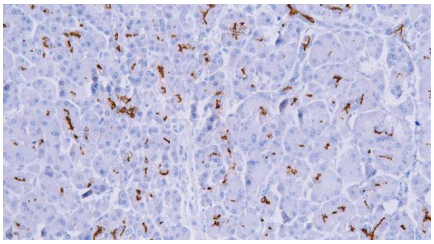
Apical cell membrane; Multi-pass membrane protein {ECO:0000269|Ref.57}. Early endosome membrane; Multi-pass membrane protein {ECO:0000269|Ref.57}. Cell membrane; Multi-pass membrane protein {ECO:0000269|Ref.57}. Recycling endosome membrane; Multi-pass membrane protein {ECO:0000269|Ref.57}. Endoplasmic reticulum membrane; Multi-pass membrane protein {ECO:0000269|Ref.57}. Nucleus {ECO:0000250|UniProtKB:P34158}. Note=The channel is internalized from the cell surface into an endosomal recycling compartment, from where it is recycled to the cell membrane (PubMed:17462998, PubMed:19398555, PubMed:20008117). In the oviduct and bronchus, detected on the apical side of epithelial cells, but not associated with cilia (PubMed:22207244). In Sertoli cells, a processed product is detected in the nucleus (By similarity). ER stress induces GORASP2-mediated unconventional (ER/Golgi-independent) trafficking of core-glycosylated CFTR to cell membrane (PubMed:21884936). {ECO:0000250|UniProtKB:P34158, ECO:0000269|PubMed:19398555, ECO:0000269|PubMed:20008117, ECO:0000269|PubMed:21884936, ECO:0000269|PubMed:22207244, ECO:0000305|PubMed:17462998}

Tissue Location

Expressed in the respiratory airway, including bronchial epithelium, and in the female reproductive tract, including oviduct (at protein level) (PubMed:15716351, PubMed:22207244). Detected in pancreatic intercalated ducts in the exocrine tissue, on epithelial cells in intralobular striated ducts in sublingual salivary glands, on apical membranes of crypt cells throughout the small and large intestine, and on the reabsorptive duct in eccrine sweat glands (PubMed:1284548, PubMed:28130590). Detected on the equatorial segment of the sperm head (at protein level) (PubMed:19923167). Detected in nasal and bronchial superficial epithelium (PubMed:15716351). Expressed by the central cells on the sebaceous glands, dermal adipocytes and, at lower levels, by epithelial cells (PubMed:28130590)

Images

Immunohistochemical analysis of formalin-fixed and paraffin-embedded human pancreas tissue was performed with CFTR primary antibody, followed by peroxidase-conjugated secondary antibody and DAB staining.



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.