Rabbit CFTR Polyclonal Antibody | anti-CFTR antibody

Phospho-CFTR (Ser737) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA329643	**Rabbit**	**Human, Mouse, RatPredicted Reactivity: Pig (100%), Zebrafish (86%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (89%), Chicken (89%)**	**ELISA, Immunohistochemistry, Western Blot**

PRODUCT SYNONYMS

CFTR; Polyclonal Antibody; Phospho-CFTR (Ser737) Antibody; ABC 35; ABC35; ABCC 7; ABCC7; ATP binding cassette sub family C member 7; ATP Binding Cassette Superfamily C Member 7; ATP binding cassette transporter sub family C member 7; ATP-binding cassette sub-family C member 7; cAMP dependent chloride channel; cAMP-dependent chloride channel; CF; CFTR/MRP; CFTR_HUMAN; Channel conductance controlling ATPase; Channel conductance-controlling ATPase; Cystic fibrosis transmembrane conductance regulator (ATP-binding cassette sub family C; member 7); Cystic fibrosis transmembrane conductance regulator; Cystic fibrosis transmembrane conductance regulator ATP binding cassette sub family C member 7; Cystic Fibrosis Transmembrane Regulator; dJ760C5.1; MRP 7; MRP7; TNR CFTR; anti-CFTR antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat Predicted Reactivity: Pig (100%), Zebrafish (86%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (89%), Chicken (89%)
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-CFTR (Ser737) Antibody detects endogenous levels of CFTR only when phosphorylated at Ser737. Tissue Specificity: Expressed in the respiratory airway, including bronchial epithelium, and in the female reproductive tract, including oviduct (at protein level). 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. Detected on the equatorial segment of the sperm head (at protein level). Detected in nasal and bronchial superficial epithelium. Expressed by the central cells on the sebaceous glands, dermal adipocytes and, at lower levels, by epithelial cells.
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-CFTR antibody	ELISA (Peptide ELISA), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human CFTR around the phosphorylation site of Ser737.
Conjugation	Unconjugated
Fragment	Fab fragment
Post Translational Modifications	N-glycosylated.Phosphorylated; cAMP treatment promotes phosphorylation and activates the channel. Dephosphorylation decreases the ATPase activity (in vitro). Phosphorylation at PKA sites activates the channel. Phosphorylation at PKC sites enhances the response to phosphorylation by PKA. Phosphorylated by AMPK; this inhibits channel activity.Ubiquitinated, leading to its degradation in the lysosome. Deubiquitination by USP10 in early endosomes enhances its endocytic recycling to the cell membrane. Ubiquitinated by RNF185 during ER stress.

Subunit Structure	Monomer; does not require oligomerization for channel activity. May form oligomers in the membrane. Interacts with SLC26A3, SLC26A6 and SHANK2 (By similarity). Interacts with SLC9A3R1 and MYO6. Interacts (via C-terminus) with GOPC (via PDZ domain); this promotes CFTR internalization and thereby decreases channel activity. Interacts with SLC4A7 through SLC9A3R1. Found in a complex with MYO5B and RAB11A. Interacts with ANO1. Interacts with SLC26A8. Interacts with AHCYL1; the interaction increases CFTR activity (By similarity). Interacts with CSE1L. The core-glycosylated form interacts with GORASP2 (via PDZ GRASP-type 1 domain) in respone to ER stress.
Similarity	Binds and hydrolyzes ATP via the two cytoplasmic ABC transporter nucleotide-binding domains (PubMed:15284228). The two ATP-binding domains interact with each other, forming a head-to-tail dimer (PubMed:17036051). Normal ATPase activity requires interaction between the two domains (PubMed:15284228). The first ABC transporter nucleotide-binding domain has no ATPase activity by itself (By similarity).The PDZ-binding motif mediates interactions with GOPC and with the SLC4A7, SLC9A3R1/EBP50 complex.The R region is intrinsically disordered (PubMed:10792060, PubMed:17660831). It mediates channel activation when it is phosphorylated, but not in the absence of phosphorylation (PubMed:10792060).Belongs to the ABC transporter superfamily. ABCC family. CFTR transporter (TC 3.A.1.202) subfamily.
Subcellular Location	Apical cell membrane>Multi-pass membrane protein. Early endosome membrane>Multi-pass membrane protein. Cell membrane>Multi-pass membrane protein. Recycling endosome membrane>Multi-pass membrane protein. Endoplasmic reticulum membrane>Multi-pass membrane protein. Nucleus. 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).
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES

IHC (Immunohistochemisry)
At 1/200 staining Mouse kidney tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary antibody.

IHC (Immunohiostchemistry)
Staining Rat spleen tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary antibody.

WB (Western Blot)
Western blot analysis of CFTR (Phospho-Ser737) using COLO205 whole cell lysates.-/+ means absence or presence of N peptideï¼ˆnon-phospho peptide) and P peptide(phospho peptide).

ADDITIONAL INFORMATION

Related Product Information for anti-CFTR antibody	Epithelial ion channel that plays an important role in the regulation of epithelial ion and water transport and fluid homeostasis. Mediates the transport of chloride ions across the cell membrane. Channel activity is coupled to ATP hydrolysis. The ion channel is also permeable to HCO (3-); selectivity depends on the extracellular chloride concentration. Exerts its function also by modulating the activity of other ion channels and transporters. Plays an important role in airway fluid homeostasis. Contributes to the regulation of the pHand the ion content of the airway surface fluid layer and thereby plays an important role in defense against pathogens. Modulates the activity of the epithelial sodium channel (ENaC) complex, in part by regulating the cell surface expression of the ENaC complex. Inhibits the activity of the ENaC channel containing subunits SCNN1A, SCNN1B and SCNN1G. 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. May regulate bicarbonate secretion and salvage in epithelial cells by regulating the transporter SLC4A7. Can inhibit the chloride channel activity of ANO1. Plays a role in the chloride and bicarbonate homeostasis during sperm epididymal maturation and capacitation.

NCBI AND UNIPROT INFORMATION

NCBI GI #	90421313
NCBI GeneID	1080
NCBI Accession #	NP_000483.3
NCBI GenBank Nucleotide #	NM_000492.3
UniProt Accession #	P13569; Q20BG8; Q20BH2; Q2I0A1; Q2I102
Molecular Weight	168,142 Da
NCBI Official Full Name	cystic fibrosis transmembrane conductance regulator
NCBI Official Synonym Full Names	cystic fibrosis transmembrane conductance regulator (ATP-binding cassette sub-family C, member 7)
NCBI Official Symbol	CFTR
NCBI Official Synonym Symbols	CF; MRP7; ABC35; ABCC7; CFTR/MRP; TNR-CFTR; dJ760C5.1
NCBI Protein Information	cystic fibrosis transmembrane conductance regulator; cAMP-dependent chloride channel; channel conductance-controlling ATPase
UniProt Protein Name	Cystic fibrosis transmembrane conductance regulator
UniProt Gene Name	**CFTR**
UniProt Synonym Gene Names	ABCC7; CFTR
UniProt Entry Name	CFTR_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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