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SCNN1A Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8804C

Product Information

Application	IHC-P, IF, FC, WB, E
Primary Accession	P37088
Reactivity	Human
Predicted	Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB21957
Calculated MW	75704
Antigen Region	365-391

Additional Information

Gene ID	6337
Other Names	Amiloride-sensitive sodium channel subunit alpha, Alpha-NaCH, Epithelial Na(+) channel subunit alpha, Alpha-ENaC, ENaCA, Nonvoltage-gated sodium channel 1 subunit alpha, SCNEA, SCNN1A, SCNN1
Target/Specificity	This SCNN1A antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 365-391 amino acids from the Central region of human SCNN1A.
Dilution	IHC-P~~1:100~500 IF~~1:10~50 FC~~1:10~50 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SCNN1A Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SCNN1A (HGNC:10599)
Function	This is one of the three pore-forming subunits of the heterotrimeric

	epithelial sodium channel (ENaC), a critical regulator of sodium balance and fluid homeostasis (PubMed:30251954, PubMed:32729833, PubMed:8023962, PubMed:8278374, PubMed:9792722). ENaC operates in epithelial tissues, where it mediates the electrodiffusion of sodium ions from extracellular fluid through the apical membrane of cells, with water following osmotically (PubMed:24124190, PubMed:28710092, PubMed:8278374). It plays a key role in maintaining sodium homeostasis through electrogenic sodium reabsorption in the kidneys (PubMed:12107247). Additionally, ENaC is essential for airway surface liquid homeostasis, which is crucial for proper mucus clearance (PubMed:24124190, PubMed:28710092).
Cellular Location	Apical cell membrane; Multi-pass membrane protein. Cell projection, cilium. Cytoplasmic granule. Cytoplasm Cytoplasmic vesicle, secretory vesicle, acrosome {ECO:0000250|UniProtKB:P37089}. Cell projection, cilium, flagellum {ECO:0000250|UniProtKB:P37089}. Note=In the oviduct and bronchus, located on cilia in multi-ciliated cells. In endometrial non-ciliated epithelial cells, restricted to apical surfaces. In epidermis, located nearly uniformly in the cytoplasm in a granular distribution (PubMed:28130590). In sebaceous glands, observed only in the cytoplasmic space in between the lipid vesicles (PubMed:28130590). In eccrine sweat glands, mainly located at the apical surface of the cells facing the lumen (PubMed:28130590). In skin, in arrector pili muscle cells and in adipocytes, located in the cytoplasm and colocalized with actin fibers (PubMed:28130590). In spermatogonia, spermatocytes and round spermatids, located in the cytoplasm (By similarity). Prior to spermiation, location shifts from the cytoplasm to the spermatid tail (By similarity). In spermatozoa, localizes at the acrosome and the central region of the sperm flagellum (By similarity) {ECO:0000250|UniProtKB:P37089, ECO:0000269|PubMed:22207244, ECO:0000269|PubMed:24124190, ECO:0000269|PubMed:28130590}
Tissue Location	Expressed in the female reproductive tract, from the fimbrial end of the fallopian tube to the endometrium (at protein level) (PubMed:22207244). Expressed in kidney (at protein level). In the respiratory tract, expressed in the bronchial epithelium (at protein level). Highly expressed in lung. Detected at intermediate levels in pancreas and liver, and at low levels in heart and placenta (PubMed:22207244). in skin, expressed in keratinocytes, melanocytes and Merkel cells of the epidermal sub-layers, stratum basale, stratum spinosum and stratum granulosum (at protein level) (PubMed:28130590) Expressed in the outer root sheath of the hair follicles (at protein level) (PubMed:28130590). Detected in both peripheral and central cells of the sebaceous gland (at protein level) (PubMed:28130590). Expressed by eccrine sweat glands (at protein level) (PubMed:28130590). In skin, also expressed by arrector pili muscle cells and intradermal adipocytes (PubMed:28130590). Isoform 1 and isoform 2 predominate in all tissues

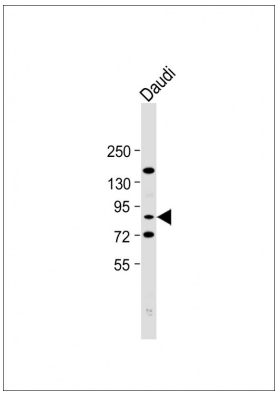
Background

Nonvoltage-gated, amiloride-sensitive, sodium channels control fluid and electrolyte transport across epithelia in many organs. These channels are heteromeric complexes consisting of 3 subunits: alpha, beta, and gamma. This gene encodes the alpha subunit, and mutations in this gene have been sociated with pseudohypoaldosteronism type 1 (PHA1), a rare salt wasting disease resulting from target organ unresponsiveness to mineralocorticoids.

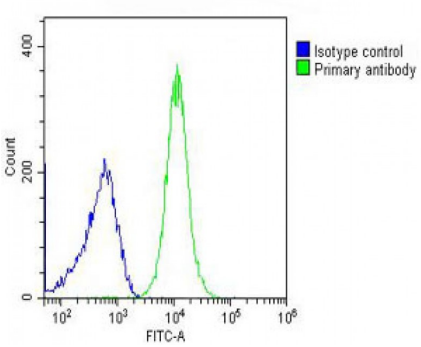
References

Azad A.K., et.al., Hum. Mutat. 30:1093-1103(2009).

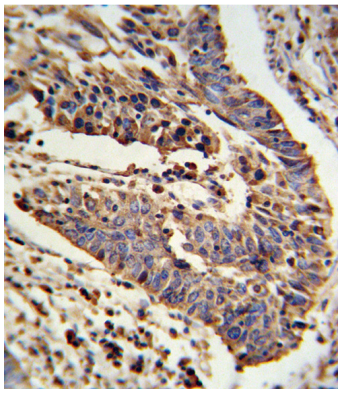
Images



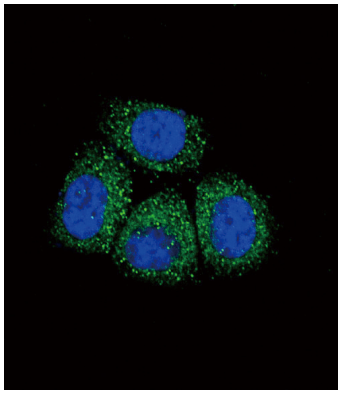
Anti-SCNN1A Antibody (Center) at 1:2000 dilution + Daudi whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 76 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Overlay histogram showing WiDr cells stained with AP8804c (green line). The cells were fixed with 2% paraformaldehyde (10 min). The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP8804c, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(OH191631) at 1/200 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was rabbit IgG (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.



Formalin-fixed and paraffin-embedded human lung carcinoma reacted with SCNN1A Antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Confocal immunofluorescent analysis of SCNN1A Antibody (Center) (Cat. #AP8804c) with Hela cell followed by Alexa Fluor寨?489-conjugated goat anti-rabbit lgG (green). DAPI was used to stain the cell nuclear (blue).

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