## Overview

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>Anti-epithelial Sodium Channel alpha antibody</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Rabbit polyclonal to epithelial Sodium Channel alpha</td>
</tr>
<tr>
<td><strong>Host species</strong></td>
<td>Rabbit</td>
</tr>
<tr>
<td><strong>Tested applications</strong></td>
<td>Suitable for: WB, IHC-P</td>
</tr>
<tr>
<td><strong>Species reactivity</strong></td>
<td>Reacts with: Rat, Human</td>
</tr>
<tr>
<td></td>
<td>Predicted to work with: Mouse</td>
</tr>
<tr>
<td><strong>Immunogen</strong></td>
<td>Synthetic peptide within Human epithelial Sodium Channel alpha aa 200-250 conjugated to keyhole limpet haemocyanin. The exact sequence is proprietary.</td>
</tr>
<tr>
<td></td>
<td>Sequence: ARRARSVASSLRDNNPQVDWKDWKIGFQLCNQNKSDCF YQTYSSGVDAVR E</td>
</tr>
<tr>
<td></td>
<td>Database link: P37088</td>
</tr>
<tr>
<td><strong>Positive control</strong></td>
<td>Human kidney and rat kidney tissues.</td>
</tr>
</tbody>
</table>

## Properties

<table>
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<tr>
<th><strong>Form</strong></th>
<th>Liquid</th>
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<tbody>
<tr>
<td><strong>Storage instructions</strong></td>
<td>Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.</td>
</tr>
<tr>
<td><strong>Storage buffer</strong></td>
<td>Preservative: 0.09% Sodium azide</td>
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<tr>
<td></td>
<td>Constituents: 1% BSA, 50% Glycerol</td>
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<tr>
<td><strong>Purity</strong></td>
<td>Protein A purified</td>
</tr>
<tr>
<td><strong>Clonality</strong></td>
<td>Polyclonal</td>
</tr>
<tr>
<td><strong>Isotype</strong></td>
<td>IgG</td>
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## Applications
Function
Sodium permeable non-voltage-sensitive ion channel inhibited by the diuretic amiloride. Mediates the electrodiffusion of the luminal sodium (and water, which follows osmotically) through the apical membrane of epithelial cells. Controls the reabsorption of sodium in kidney, colon, lung and sweat glands. Also plays a role in taste perception.

Tissue specificity
Highly expressed in kidney and lung. Detected at intermediate levels in pancreas and liver, and at low levels in heart and placenta. Isoform 1 and isoform 2 predominate in all tissues. Expression of isoform 3, isoform 4 and isoform 5 is very low or not detectable, except in lung and heart.

Involvement in disease
Defects in SCNN1A are a cause of autosomal recessive pseudohypoaldosteronism type 1 (AR-PHA1) [MIM:264350]. PHA1 is a rare salt wasting disease resulting from target organ unresponsiveness to mineralocorticoids. There are 2 forms of PHA1: the autosomal recessive form that is severe, and the dominant form which is milder and due to defects in mineralocorticoid receptor. AR-PHA1 is characterized by an often fulminant presentation in the neonatal period with dehydration, hyponatraemia, hyperkalaemia, metabolic acidosis, failure to thrive and weight loss. Note=The degree of channel function impairment differentially affects the renin-aldosterone system and urinary Na/K ratios, resulting in distinct genotype-phenotype relationships in PHA1 patients. Loss-of-function mutations are associated with a severe clinical course and age-dependent hyperactivation of the renin-aldosterone system. This feature is not observed in patients with missense mutations that reduce but do not eliminate channel function. Markedly reduced channel activity results in impaired linear growth and delayed puberty. Defects in SCNN1A are a cause of bronchiectasis with or without elevated sweat chloride type 2 (BESC2) [MIM:613021]; also called cystic fibrosis-like syndrome. BESC2 is a debilitating respiratory disease characterized by chronic abnormal dilatation of the bronchi and other cystic fibrosis-like symptoms in the absence of known causes of bronchiectasis (cystic fibrosis, autoimmune diseases, ciliary dyskinesia, common variable immunodeficiency, foreign body obstruction). Clinical features include subnormal lung function, sinopulmonary infections, chronic productive cough, excessive sputum production, and elevated sweat chloride in some cases.

Sequence similarities
Belongs to the amiloride-sensitive sodium channel (TC 1.A.6) family. SCNN1A subfamily.

Post-translational modifications
Ubiquitinated; this targets individual subunits for endocytosis and proteasome-mediated degradation.

Cellular localization
Apical cell membrane. Apical membrane of epithelial cells.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>WB</td>
<td>1/1000</td>
<td>Detects a band of approximately 77 kDa (predicted molecular weight: 76 kDa).</td>
</tr>
<tr>
<td>IHC-P</td>
<td>1/100 - 1/500</td>
<td>Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.</td>
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Our Abpromise guarantee covers the use of ab214192 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
Western blot - Anti-epithelial Sodium Channel alpha antibody (ab214192)

Mouse kidney lysate (40 ug)
Primary: ab214192 at 1/1000 dilution
Secondary: IRDye800CW Goat anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 76 kD
Observed band size: 77 kD

Rat kidney lysate (40 ug)
Primary: ab214192 at 1/1000 dilution
Secondary: IRDye800CW Goat anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 76 kD
Observed band size: 77 kD

Immunohistochemical analysis of paraformaldehyde-fixed, paraffin-embedded Human kidney tissue labeling epithelial Sodium Channel alpha with ab214192 at 1/200 dilution followed by a conjugated secondary and DAB staining.
Immunohistochemical analysis of formalin-fixed, paraffin-embedded rat kidney tissue labeling epithelial Sodium Channel alpha with ab214192 at 1/200 dilution followed by conjugation to the secondary antibody and DAB staining.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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