ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Barttin Antibodies

Cat. # BRTN11-P	Human Barttin Control/blocking Peptide #1	**SIZE**: 100 ug
Cat. # BRTN11-S	Rabbit Anti-human Barttin antiserum #1	**SIZE**: 100 ul
Cat. # BRTN11-A	Rabbit Anti-Human Barttin IgG #1 (Aff pure)	**SIZE**: 100 ug

Chloride is a critical component of all living cells. Voltage-gated chloride channels regulate cellular traffic of chloride ion. The chloride channels (CIC or CLC) performs several functions including the regulation of cell volume, membrane potential stabilization, signal transduction, and transepithelial transport. Mutations in CIC genes have been linked with several human diseases including myotonias (Thomsen's disease), cystic fibrosis, Bartters syndrome type III, Dent's disease, and X-linked recessive nephrolithiasis. In mammals, CLC proteins form a superfamily of at least 9 different genes (CLC1-7 also known as CLCN1-7 and CLK1-2 or CLCKa and CLCKb). Additional forms of these proteins are obtained by alternative splicing. All CLC proteins (~700-1000 aa) are predicted to contain 10 (possibly 12) transmembrane domains.

Bartter syndrome is an autosomal recessive disorder defined by hyokalemic metabolic alkalosis, elevated plasma renin activity and hyperaldosteronism with normal blood pressure and altered prostaglandin metabolism. Mutations in the NKCC2, K+-channel ROMK, and CLCNKB genes are associated with Bartter syndrome type1-3, respectively. BSND encodes a protein known as barttin, which contains 2 TM and is expressed in thin limb and thick ascending limb of the loop of Henle in the kidney, and in the dark cells of the inner ear. BSND gene is mutated in Bartter syndrome with sensorineural deafness. **Barttin** (mouse 307-aa, rat 308-aa, human 320-aa, chromosome 1p31-p32, ~40-42 kDa) acts as an essential □-subunit for CLC-Ka and CLC-Kb with which it co-localizes in basolateral membrane of renal tubules and of K-secreting epithelia of the inner ear.

Source of Antigen and Antibodies

Antigen	16-aa peptide of human Barttin; **Designated (BRTN11-P or control peptide)** conjugated to KLH; **epitope location** ~ N-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, polyclonal Unpurified antiserum (cat # **BRTN11**-S) Aff pure IgG1 (**cat #BRTN11-A**) purified over antigen-agarose column
2-ab	Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage
Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using ECL technique).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified antibody at 1-20 ug/ml in paraformaldehyde fixed sections of tissues.

Specificity & Cross-reactivity

The BRTN11-P control peptide 100% conserved in mouse, rat, and human CLC-1. No significant sequence homology is detected with other CLCs or other proteins. Antibody cross-reactivity in various species has not been studied. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site).

General References: (1) Birkenhager R et al (2001) Nat. genet. 29, 310-324; Estevez R (2001) Nature 414, 558; Brennan TM et al (1998) Am. J. Hum. Genet. 62, 355-361.

2. Citations for ADI Antibodies (see updates at the web site)

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*This product is for In vitro research use only.

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