ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

K+-Cl- Cotransporter-1 (KCC1) Antibodies

Cat. KCC11-S	Rabbit Anti-Rat KCC1 Antiserum	**SIZE**: 100 ul
Cat. KCC11-A	Rabbit Anti-Rat KCC1 IgG # 1 (aff pure)	**SIZE**: 100 ug
Cat. KCC11-P	Rat KCC1 Control peptide # 1	**SIZE**: 100 ug

Chloride is a critical component of all living cells. It is also the single most dominant diffusible anion inside of most cells - the others are mostly impermeable organic anions. Since cytoplasmic electroneutrality is maintained under normal physiological environment, changes in cellular chloride level is accompanied by total cell solute content. The cation chloride cotransporters (**CCC**) protein family is involved in the electroneutral movement of ions across the cell membrane.

The K-Cl cotransporters mediate the coupled movement of K+ and Cl- ions across the cell membranes. This transport process is involved in the regulatory volume decrease in response to cell swelling in red cells and vectorial movement of Cl- ions across the kidney epithelia. The net direction of this transport is out of the cells. At least four isoforms of KCC identified (**KCC1, KCC2, KCC3, and KCC4**) have been identified and functionally characterized. KCC are predicted to have the same protein structure: 12 transmembrane domains with a large extracellular loop with potential N-glycosylation sites, and the cytoplasmic N and C-termini. KCC1 (human/rat/mouse 1085 aa) is expressed in both erythroid and non-erythroid cells and tissues. It is sensitive to furosemide and activated by cell swelling.

Source of Antigen and Antibodies

Antigen	21-aa peptide of Rat KCC1 ; (Gene Accession #Q63632) **Designated (KCC11-P or control peptide or blocking peptide**) conjugated to KLH; **Epitope location**~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**KCC11**-S) and IgG, purified over antigen-agarose (Cat # **KCC11**-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified, undiluted)

100 ul/vial solution — 50 ul/vial lyophilized powder

contains 0.05% sodium azide

Reconstitute powder 50 ul or 100 ul PBS

Affinity pure IgG

100 ug/100ul solution — 50 ug/50 ul lyophilized powder

Buffer: PBS+0.1% BSA+0.05% azide

Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution — 50 ug/50 ul lyophilized powder

Buffer: PBS pH 7.5, contains 0.05% sodium azide

Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials for less than a week at 4oC.

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 1-10 ug/ml for affinity pure or 1:500:1:000 for neat serum using Chemiluminescence technique.

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified antibody at 2-20 ug/ml in formaldehyde fixed tissue.

Specificity & Cross-reactivity

Rat KCC11-P sequence is 100% conserved in human, rat, mouse, pig, and rabbit. No significant sequence homology is seen with other KCCs or CCC. Antibody crossreactivity in various species is not established. We recommend the use of control peptide to establish antibody specificity. 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 see detailed protocol at the web site).

General References: 1. Payne JA (1996) J. Biol. Chem. 271, 16245; Gillen CM (1996) J Biol. Chem. 271, 1627; Gillen CM (1996) J. Biol. Chem. 271, 16237; Pellegerino CM (1998) Blood Cells Mol. Dis. 24, 31; Holtzman EJ (1998) Am. J. Physiol. 275, 550; Mount DB (1998) J Exptl. Biol. 201, 2091;

*This product is for in vitro research use only.

Related material available from ADI

Antibodies to KCC1-4, NKCC, NCC, OAT, OCT, AE13, NBCs, CLC1-7;

Western Blot recycling kit (Use the same blot to probe with multiple antibodies Ang-1 and Ang-2, etc.) **recycle blot at room temp in 5-10 min**; No mercaptoethanol or heating required).

KCC11-S-A-P 71213A

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, San Antonio, TX 78244, USA; **Email**: service@4adi.com
☎ (800) 786-5777; (210) 561-9515; **Fax**: (210) 561-9544; **Web Site**: www.4adi.com