ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Anion Exchanger-2 (AE-2) Antibodies

Cat. # AE21-P	Rat AE-2 Control/blocking Peptide # 1	**SIZE**: 100 ug
Cat. # AE21-S	Rabbit Anti-rat AE-2 antiserum # 1	**SIZE**: 100 ul
Cat. # AE21-A	Rabbit Anti-rat AE-2 Ig G# 1 (aff pure)	**SIZE**: 100 ug

Anion exchangers (AE) are membranes proteins involved in the regulation of intracellular pH, cell volume regulation as well as in transepithelial acid/base transport. AE proteins are sodium–independent exchangers that mediates one-for-one exchange of extracellular Cl- for intracellular HCO3- ions resulting in intracellular acidification. AE proteins are encoded by a family of at least three related genes (**AE1-4**). AE proteins are exemplified by a large N-terminal cytoplasmic domain (~40-75 kDa) that provides binding sites for cytoskeleton protein, glycolytic enzymes and hemoglobin. The N-terminal cytoplasmic domains of AE2 are AE3 are more closely related than AE1. In fact, AE1 NT is 300 aa shorter than both the AE2 and AE3. The CT TM domain (~55 kDa) is highly conserved (~70% identity) among various AE, spans the lipid bilayer 12-14 times, and is able to mediate anion exchange by itself.

Human **AE2** gene (chromosome 7q35-q36) encodes a protein of 1241 aa (mouse 1237 aa, rat 1234 aa). Several isoforms of AE2 are also expressed as a result of alternative splicing. AE2 is widely expressed in many tissues.

Protein name Anion exchange protein 2
Synonyms Non-erythroid band 3-like protein; AE2 anion exchanger, Solute carrier family 4 member 2, B3RP Ae2, B3rp2
Gene name Name: Slc4a2

Source of Antigen and Antibodies

Antigen	21-aa peptide of Rat AE2/B3A2 (protein accession #P23347; refs 1) **Designated (AE21-P or Control peptide) conjugated to KLH; epitope location** ~ N-terminal, Cytoplasmic
Ab Host/type	Rabbit, polyclonal Unpurified antiserum (cat # AE21-S) Aff pure IgG (**cat #AE21-A**) purified over antigen-agarose column
2-ab	Goat **Anti-Rat IgG-HRP** conjugate Cat # 50320 (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

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 antiserum and 1-10 ug/ml for affinity pure IgG using Chemiluminescence technique). Glut-13/HMIT is ~75-90 kDa (glycosylated) and ~67 kDa non-glycosylated forms.

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: not tested. We recommend the use of affinity purified antibody at 2-10 ug/ml.

Specificity & Cross-reactivity

Rat AE21-P control peptide is 100% conserved in mouse, 90% in rabbit, 85% in human, and 80% in chicken AE-2. No significant sequence homology is detected with other AE or other proteins. Actual cross-reactivity of antibodies in various species has not been studied. The AE21-P , 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. Negrini C et al (1995) BBA 1236, 207; Chow A et al (1992) Am J Physiol. 263, G345; Kudrycki KE et al (1990) J Biol. Chem. 265, 462; Kopito et al (1990) Intl. Rev. Cytol. 123, 177; Lindsey AE et al (1990) PNAS 87, 3456; Alper et al (1988) J Biol. Chem. 263, 17092; Demuth DR et al (1986) EMBO J., 5, 1205.

(2) Citations of ADI's Antibodies (see web site for updated list)

Ruiz ML, 2005, Biochem. Pharmacol. 69, 531-539, WB,
Pan X-Y, 2006, Br. J. Haematology 134, 491-499; erratum 135, 747-747, WB,
Kern G, 2002, The J. Exp. Biol. 205, 2943–2954, WB, IHC
Tietz PS, 2003, J. Biol. Chem., 278, 22, 20413-20419, WB,

*This product is for In vitro research use only.

Related material available from ADI

Antibodies AE1-4 and CLC-K1; KCCL1-3; AQP-9 OCT

AE21-S-A-P 70827A

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