

Product Specification Sheet

Connexin 43 (Cx43)/Gap Junction Alpha-1 Protein (CXA-1) Antibodies

Cat. CX43C13-M	Mouse Monoclonal Anti-Mouse Cx43 ab # 3, ascites	SIZE: 100 ul
Cat. CX43C13-P	Mouse Connexin Cx43 Control peptide # 3	SIZE: 100 ug

Gap junctions are composed of transmembrane channels that link the cytoplasm of neighboring cells. They differ from other membrane channels since they exist between two cells. Gap junctions are relatively non-specific and allow passive diffusion of small molecules up to 1000 Dalton. The junctions exist in almost all vertebrate and non-vertebrates cells. It is believed that gap junction play an important for intercellular communications and affect growth and differentiation of cells. Gap junctional channel is composed of a hemichannel (connexon) in the cell membrane of one cell joined in mirror symmetry with a connexon in the opposing cell. Each connexon is an oligomer of six protein subunits that define the axial aqueous pore. Molecular cloning studies have identified a family of at least 12 highly related Connexins that are designated according to mol. wt, **Cx26-50**. Hydropathy analyses of Cx sequences predicts 4 transmembrane™, 2 extracellular (EC), and 3 cytoplasmic (CP) domains. The EC, TM, and N-terminal CP domains are well conserved among family members, while Central and C-terminal domains are highly variable in both sequence and size. The N and C-termini are predicted to be cytoplasmic.

Source of Antigen, Antibodies

Antigen	14-aa peptide of Mouse CX43 ; Designated (CX43C13-P or control peptide) conjugated to KLH; epitope location ~ middle region, Cytoplasmic
Ab Host/type	Mouse, Monoclonal, ascites (IgM) (cat #CX43C13-M)
2-ab	Goat Anti-mouse IgG-HRP conjugate Cat # 40320 (AP, biotin, FITC conjugates also available)
-ve control	Cat # 20008-2, Mouse (non-immune) Serum IgM, 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 -200C 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 (1:500-1:1000 for neat ascites) using Chemiluminescence technique).

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

Histochemistry & Immunofluorescence: not tested. We recommend the use of formaldehyde fixed tissues (see refs 2).

Specificity & Cross-reactivity

Mouse CX43C13-P immunogenic peptide sequence is specific for Cx43 and no significant homology is seen with other Connexin. The mouse Cx43 peptide sequence is 100% homologous with rat, bovin, ovine, chicken and human Cx43 (4). Antibody has detected Cx43 in mouse, rat, human, bovine, and hamster. 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) Kumar, Nm and Giula, NB (1996) Cell 84, 381-388; White , WT et al (1995) Kidney Intl. 48, 1148-1157; Evans, HW (1994) Biochem. Soc. Tr. 788-792; Byer, E et al (1990) J. membrane Biol. 116, 187-194; (2) Haefliger, JA et al (1992) JBC 267, 2057-2064; ; Reed KE et al (1993) J Clin. Invest. 91, 997-1004; Wilecke K et al (1991) 114, 1049-1057; Byer EC et al (1985) JCB 105, 2621; Nicholson BJ et al (1985) JBC 260, 6514; John SA et al (1991) BBRC 178, 1312; Fishman GI et al (1990) JCB 111, 589-598.

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

Wiszniewski L, 2007, Differentiation, 75, Issue 5: 382-392, WB,
Liao Y, 2007, Arterioscler. Thromb. Vasc. Biol., 27: 1037 , IHC
Isakson BE, 2006, AJP Heart Circ Physiol, 290: H1199 , IHC,
Sato T, 2002, Diabetes 51: 1565-1571, WB,
Aase karin, 2001, Circulation 104: 358-364,, , IHC,
Gutstein DE, 2001, Circ. Res. 88: 333-339, WB., IHC,
Theiss C, 2006, Experimental Cell Research, 313, 38-52, WB, IHC
Delay RJ, 2003, Chem Senses, 28: 807 - 815, WB,
Galindo EEH, 2003, Invest. Ophthalmol. Vis. Sci., 44: 2959, IHC,

*This product is for in vitro research use only.

Related material available from ADI

Anti- Cx26 - Cx50

CX43C13-M-P 71217A

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