

Product Specification Sheet

Mouse Connexin 31 (Cx31)/Gap Junction Beta-3 Protein (CXB-3)

<b>Cat.</b> CX31-S	Rabbit Anti-Mouse Cx31 Antiserum	<b>SIZE:</b> 100 ul
<b>Cat.</b> CX31-A	Rabbit Anti- Mouse Cx31 IgG (affinitypure)	<b>SIZE:</b> 100 ug
<b>Cat.</b> CX31-P	Mouse Connexin Control peptide	<b>SIZE:</b> 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**. Hydrophathy analyses of Cx sequences predicts 4 transmembrane <sup>TM</sup>, 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. Mouse Connexin 31 is A 270 aa gap junction protein with a predicted mol. Wt. Of ~31 KDa. It is prominently expressed in skin (see reviews in refs. 1).

**Source of Antigen, Antibodies**

<b>Antigen</b>	17aa peptide of mouse CX31 ; <b>Designated (CX31-P or control peptide). epitope location ~ 2nd Cytoplasmic domain</b>
<b>Ab Host/type</b>	Rabbit, polyclonal Unpurified antiserum (cat #CX31-S ) Aff pure IgG1 (cat #CX31-A) purified over antigen-agarose column
<b>2-ab</b>	<b>Goat Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)</b>
<b>-ve control IgG</b>	# 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 -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** (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique). See refs in 2

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

**Histochemistry & Immunofluorescence:** We recommend the use of affinity purified antibody at 2-20 ug/ml in formaldehyde fixed tissues. See refs in 2

**Specificity & Cross-reactivity**

The rat Cx311-P immunogenic peptide sequence is 100% conserved in mouse and 76% in human. It has no significant homology with other Connexins. Antibody crossreactivity with Cx311 in various species is not established. 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:** Kumar, Nm and Giula, NB (1996) Cell 84, 381-388; Evans, HW (1994) Biochem. Soc. Tr. 788-792; Byer, E et al (1990) J. membrane Biol. 116, 187-194; Henneman, H et al (1992) Eur. J. Cell Biol. 57, 51-58; Butterweck, A et al (1994) Eur. J. cell Biol. 65, 152-163; Hoh, JH (1991) J. Biol. Chem. 266, 6524-6531

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

Fischer R, 2005, Gastroenterology, 128, 433-448, WB, IHC, Schenke LK, 2007, Stem Cells. 2007 Jun;25(6):1529-38. Epub 2007 Mar 15., IHC

CX31S-A-P 71217A

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