

Product Specification Sheet

**Connexin 40 (Cx40)/Gap Junction alpha-5 Protein (CXA-5) Antibodies**

<b>Cat.</b> CX40-S	Rabbit Anti-Mouse Cx40 Antiserum	<b>SIZE:</b> 100 ul
<b>Cat.</b> CX40-A	Rabbit Anti- Mouse Cx40 IgG (aff pure)	<b>SIZE:</b> 100 ug
<b>Cat.</b> CX40-P	Mouse Connexin Cx40 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**.

**Source of Antigen, Antibodies**

<b>Antigen</b>	19aa peptide of Mouse CX40 ; <b>Designated (CX40-P or control peptide)</b> conjugated to KLH; Epitope location~ C-terminal, Cytoplasmic domain
<b>Ab Host/type</b>	Rabbit, polyclonal Unpurified antiserum (cat # CX40-S) Aff pure IgG (cat # <b>CX40-A</b> ) purified over antigen-agarose column
<b>2-ab</b>	Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
<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 -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.

**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**

Mouse Cx40 immunogenic peptide sequence is specific for Cx40 and no significant homology is seen with other Connexin. The Cx40

peptide is conserved in rat/human (100%), chicken Cx42 (77%), human CX50 (87%), rat CX50 (81%) and Sheep Cx49 (87%). 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 (1996) Cell 84, 381; White , WT (1995) Kidney Intl. 48, 1148; Evans, HW (1994) Biochem. Soc. Tr. 788-792; Byer, E (1990) J. membrane, Biol. 116, 187 (2) Haefliger, JA (1992) JBC 267, 2057;

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

Gutstein D., 2001, Circ. Res. 88: 333-339, WB,, IHC,  
Wang L-H, 2005, Intl. J. Cardiology 100, 467-475, WB, IHC,  
Isakson BE, 2001, Am J Physiol Cell Physiol 281: C1291, , IHC,  
Li A-F, 2003, Invest. Ophthalmol. Vis. Sci., 44: 5376 - 5382, WB,  
Mukouyama y-s, 2005, Development, 132, 941-952, , IHC,  
van Rijen H VM, 2000, Cardiovasc. Res. 45, 941-951, WB,, IHC,  
Nishimura T, 2004, Placenta 25, 595-607, , IHC  
Yao J-A, 2003, Circ. Res., 93: 736 - 743, , IHC,  
Figueroa XF, 2003, Circ. Res., 92: 793 - 800, , IF  
Van der Velden, 2000, Cardiovasc. Res. 46, 476-486, WB,, IHC,  
Blomstrand F, 2004, Eur. J. Neurosci. 19, 4, 1005-1015, WB,  
Dominguez JN, 2005, Cardiovas..Res. 65, 842-850, , IHC,  
Michele DE, 2004, Molecular Therapy, 10, 399-403, WB, IHC,  
Isakson BE, 2006, AJP Heart Circ Physiol, 290: H1199 , IHC,  
Toon AB, 2000, Cardiovasc. Res. 46, 496-510, WB,, IHC,  
Rucker-Martin C, 2006, Cardiovas..Res. 72, 69-79, WB, IF  
Wiszniewski L, 2007, Differentiation, 75, Issue 5: 382-392, WB,  
Martin PEM, 2005, Br J Pharmacol.144(5):617-27., WB, IHC  
Sato T, 2002, Diabetes 51: 1565-1571, WB,  
nemer G, 2002, Development 129, 4045-4055, , IF  
Fedorov VV, 2005, Heart Rhythm, 2, 966-975, , IHC,  
Di WL, 2002, Hum. Mol. Genet. 11, -2014, , IF frozen sections  
Verheule S, 2002, Cardiovasc. Res. 55, 727-738, , IHC,  
Zheng-Fischhöfer Q, 2006, J.Cell Sci., 119: 693 - 701., WB, IF  
Di WL, 2001, J. Invest. Dermatol. 117, 958-964, , IHC,  
Fischer R, 2005, Gastroenterology, 128, 433-448, WB, IHC,  
Wang L, 2005, Am.J of Hypertension, 18, 1146-1153, WB, IHC,  
**\*This product is for in vitro research use only.**

CX40-S-A-P

71217A

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, S an Antonio, T X 7 8 24 4 , U S A;

India Contact:

**Life Technologies (India) Pvt. Ltd.**

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi - 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400 Fax: +91-11-42208444 Email: [customerservice@lifetechindia.com](mailto:customerservice@lifetechindia.com) Website: [www.lifetechindia.com](http://www.lifetechindia.com)