Human Connexin 43/GJA1
Alexa Fluor® 350-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # 578618

Catalog Number: FAB7737U

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Connexin 43/GJA1. Stains human Connexin 43/GJA1 transfectants but not irrelevant transfectants in flow cytometry.
Source	Monoclonal Mouse IgG_{2A} Clone # 578618
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0 transfected with human Connexin 43/GJA1 Accession # P17302
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10^6 cells	Human T regulatory cells

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Connexin43 (Cx43; also gap junction α-1 protein) is a 41 - 44 kDa member of the connexin family, α-type subfamily, of transmembrane proteins. It is the most common type of connexin in cardiac muscle cells, and also occurs in hepatocytes, astrocytes and ovary granulosa cells. It is a 4-transmembrane protein 382 amino acids (aa) in length that contains two cytoplasmic tails. One is 12 aa in length at the N-terminus and the second is 151 aa in length at the C-terminus. Human and rat Cx43 are 98% aa identical over the entire length of the molecule. Connexins form gap junctions (GJs) which are intercellular channels between cells. Each adjacent cell contributes to a functional channel. The fundamental unit is a “connexon”, or hemi-channel, which is composed of six connexins in a sliding subunit hexamer configuration. The hexamer may be either homomeric or heteromeric. The connexon arrangement provides for the opening and closing of an intersubunit space (or pore) that allows diffusion of molecules 1 kDa or less. It is suggested that the extended C-terminus of each connexin may interact with multiple docking proteins and serve as a plug during closure. Connexons on adjacent cells interact via their extracellular loops to form a GJ channel. When open, these channels allow for the transit of small hydrophilic molecules such as ATP, glucose, IP3 and Ca++. Connexons (or hemi-channels) that do not interact with adjacent cells are also suggested to allow for small molecule transit under unusual circumstances. Cx43 activity is regulated by phosphorylation. The exact effects, however, may be context-specific. In one case, PKC phosphorylation of S368 has been found to decrease GJ channel permeability to select small molecular weight solutes. Alternatively, PKA has been suggested to be the mediator of Cx43 phosphorylation of S365, S368, S369 and S373. In this case, phosphorylation promotes channel activity.

References:

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6. Bao, X. *et al.* (2004) Am. J. Physiol. Cell. Physiol. **286**:C647.
7. Yogo, K. *et al.* (2006) J. Reprod. Dev. **52**:321.

PRODUCT SPECIFIC NOTICES

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