

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD94 in direct ELISAs.
Source	Monoclonal Mouse IgG _{2B} Clone # 1032011
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human embryonic kidney cell HEK293-derived human CD94 Lys32-Ile179 Accession # Q13241.2
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *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 Blood Lymphocytes

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. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

CD94 is an approximately 25 kDa type 2 transmembrane protein that plays an important role in regulating natural killer (NK) cell activation (1). Human CD94 consists of a 10 amino acid (aa) cytoplasmic domain, a 21 aa transmembrane segment, and a 148 aa extracellular domain (ECD) with a stem region and one C-type lectin domain (2). Alternative splicing generates additional isoforms that lack either the stem region, the terminal half of the ECD, or the cytoplasmic and transmembrane regions (3). Within the ECD, human CD94 shares 53% and 55% amino acid identity to mouse and rat CD94, respectively. CD94 is expressed at varying cell surface density on NK cells during their differentiation and on a subset of CD8⁺ T cells (4). It associates into disulfide-linked heterodimers with NKG2A/B, C, or E (5-8), and these complexes function as receptors for the nonclassical MHC class I molecule, HLA-E (9, 10). Ligation of CD94-NKG2A or CD94-NKG2C on NK cells triggers inhibitory or activating signals, respectively (11).

References:

- Chester, C. *et al.* (2015) *Front. Immunol.* **6**:601.
- Chang, C. *et al.* (1995) *Eur. J. Immunol.* **25**:2433.
- Lieto, L.D. *et al.* (2006) *Genes Immun.* **7**:36.
- Yu, J. *et al.* (2010) *Blood* **115**:274.
- Phillips, J.H. *et al.* (1996) *Immunity* **5**:163.
- Lazetic, S. *et al.* (1996) *J. Immunol.* **157**:4741.
- Brooks, A.G. *et al.* (1997) *J. Exp. Med.* **185**:795.
- Carretero, M. *et al.* (1997) *Eur. J. Immunol.* **27**:563.
- Braud, V.M. *et al.* (1998) *Nature* **391**:795.
- Kraemer, T. *et al.* (2014) *J. Immunol. Res.* **2014**:352160.
- Houchins, J.P. *et al.* (1997) *J. Immunol.* **158**:3603.

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