

DESCRIPTION

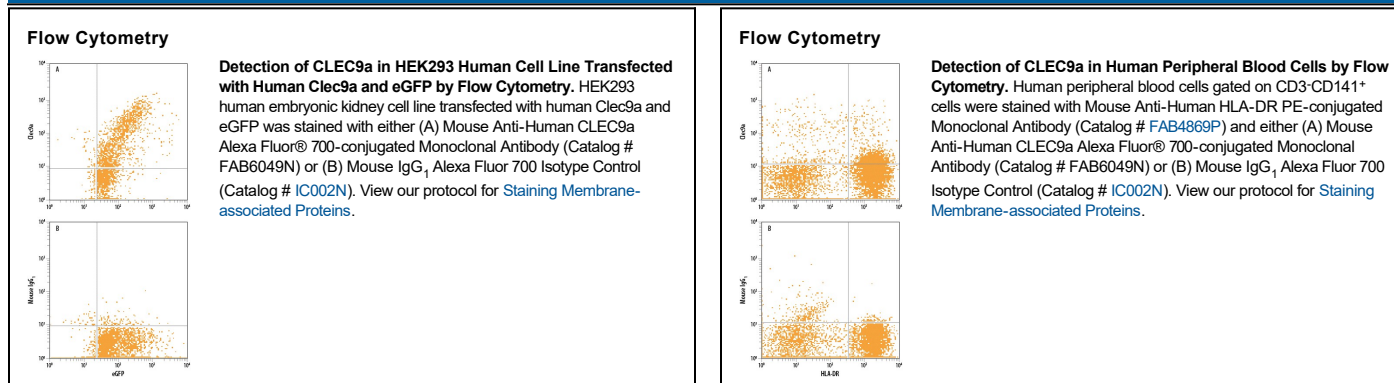
| | |
|---------------------------|--|
| Species Reactivity | Human |
| Specificity | Detects human CLEC9a in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) CLEC1, 2, 2A, 3B, 10A, 12B, 14A, rhCD302/CLEC13a, rhM1CL, or recombinant mouse CLEC9a is observed. |
| Source | Monoclonal Mouse IgG ₁ Clone # 683409 |
| Purification | Protein A or G purified from hybridoma culture supernatant |
| Immunogen | Mouse myeloma cell line NS0-derived recombinant human CLEC9a Lys57-Val241 Accession # Q6UXN8 |
| Conjugate | Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm |
| Formulation | Supplied 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 | 5 µL/10 ⁶ cells | See Below |

DATA



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

CLEC9a (C-type lectin domain family 9 member A), also known as DNGR-1, is a type II transmembrane glycoprotein member of the C-type lectin superfamily (1, 2). Mature human CLEC9a consists of a 35 amino acid (aa) cytoplasmic domain with an ITAM-like motif, a 21 aa transmembrane segment, and a 185 extracellular domain (ECD) that contains a stalk region and one C-type lectin domain (CTLD) (3-5). Within the ECD, human CLEC9a shares 57% aa sequence identity with mouse and rat CLEC9a. Although the CTLD of CLEC9a structurally resembles that of other C-type lectins, it lacks the conserved residues that typically mediate calcium and carbohydrate binding. CLEC9a is expressed as a disulfide-linked homodimer of approximately 50 kDa N-glycosylated subunits (3, 5). Human CLEC9a expression is restricted to a subpopulation of BDCA-3⁺ conventional dendritic cells (cDC) and CD16⁺ monocytes (3-5). BDCA-3⁺ cDC are analogous to mouse CD8⁺ cDC which are specialized in antigenic cross-presentation in complex with MHC class I molecules (6). In mouse, CLEC9a is additionally expressed on plasmacytoid dendritic cells (4, 5). CLEC9a ligation enhances antigen uptake and processing, leading to presentation on MHC class I and cytotoxic T cell (CTL) priming (3-5). In mouse, CLEC9a recognizes normally intracellular determinant(s) of necrotic cells and mediates their uptake by the dendritic cell (7). The subsequent antigenic cross-presentation to CTL is important for clearing necrotic cellular debris (7). CLEC9a signaling triggers activation of the tyrosine kinase Syk (3, 7).

References:

1. Huysamen, C. and G.D. Brown (2009) FEMS Microbiol. Lett. **290**:121.
2. Geijtenbeek, T.B.H. *et al.* (2004) Annu. Rev. Immunol. **22**:33.
3. Huysamen, C. *et al.* (2008) J. Biol. Chem. **283**:16693.
4. Caminschi, I. *et al.* (2008) Blood **112**:3264.
5. Sancho, D. *et al.* (2008) J. Clin. Invest. **118**:2098.
6. Dudziak, D. *et al.* (2007) Science **315**:107.
7. Sancho, D. *et al.* (2009) Nature **458**:899.

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