

## DESCRIPTION

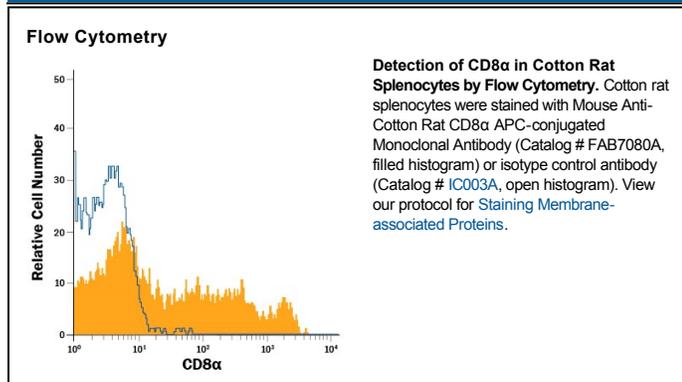
|                           |  |
|---------------------------|--|
| <b>Species Reactivity</b> | Cotton Rat   |
| <b>Specificity</b>        | Detects cotton rat CD8 $\alpha$ in direct ELISAs.  |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>2A</sub> Clone # JG12  |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant   |
| <b>Immunogen</b>          | NIH-3T3 mouse embryonic fibroblast cell line transfected with cotton rat CD8 $\alpha$ and SP2/O mouse melanoma cell line transfected with cotton rat CD8 $\alpha$ .<br>Accession # AAL55392  |
| <b>Conjugate</b>          | Allophycocyanin<br>Excitation Wavelength: 620-650 nm<br>Emission Wavelength: 660-670 nm  |
| <b>Formulation</b>        | Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.<br><br>*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    |
|-----------------------|----------------------------------|-----------|
| <b>Flow Cytometry</b> | 10 $\mu$ L/10 <sup>6</sup> cells | See Below |

## DATA



## PREPARATION AND STORAGE

|                                |  |
|--------------------------------|--|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.                                  |
| <b>Stability &amp; Storage</b> | <b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul> |

## BACKGROUND

CD8 alpha (CD8 $\alpha$ ), also known as OX8, Leu-2 and Lyt-2, is a 23 kDa (predicted) member of the Ig superfamily of molecules. It is found on immature thymocytes, cytotoxic and suppressor T cells, select mast cells, and splenic and bone marrow dendritic cells (in rodent). On T cells, CD8 $\alpha$  exists as either a disulfide linked homodimer, or heterodimer bound to CD8 $\beta$ . CD8 $\alpha\beta$  is best known as a coreceptor for the TCR, enhancing TCR signaling. CD8 $\alpha\alpha$  serves a different function and acts as a TCR corepressor that blocks T cell activation. Based on rat, mature *Sigmodon hispidus* (cotton rat) CD8 $\alpha$  is a 210 amino acid (aa) type I transmembrane protein that consists of a 161 aa extracellular region (aa 24-184) with one V-type Ig-like domain (aa 35-135), and a 30 aa cytoplasmic tail (aa 206-235). Although *Sigmodon hispidus* is called a rat, it is not. It is a rodent, and rat CD8 $\alpha$  is the closest ortholog to cotton rat CD8 $\alpha$  currently reported. Over the extracellular region, rat and cotton rat CD8 $\alpha$  share only 54% aa identity. Rat CD8 $\alpha$  runs at 34-39 kDa in SDS-PAGE, and possesses one utilized N-linked and O-linked glycosylation site (vs. no N-linked sites in cotton rat CD8 $\alpha$ ). Based on this organization, and assuming O-linked glycosylation, cotton rat CD8 $\alpha$  would be expected to run at about 30-34 kDa in SDS-PAGE. Over aa 24-182, cotton rat CD8 $\alpha$  shares 54% and 48% aa sequence identity with rat and mouse CD8 $\alpha$ , respectively.