

**DESCRIPTION**

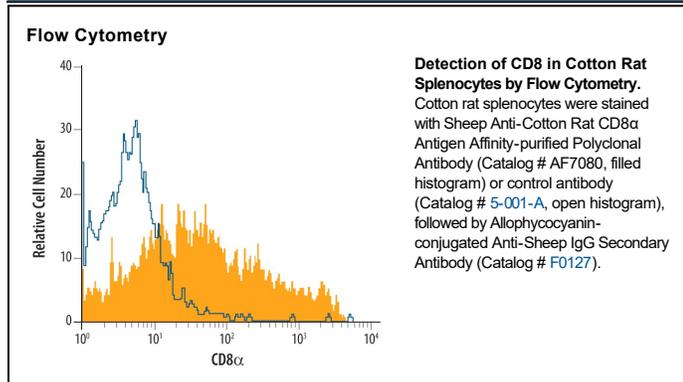
|                           |                                                                                                                                                                                                                                                                                                      |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Cotton Rat                                                                                                                                                                                                                                                                                           |
| <b>Specificity</b>        | Detects cotton rat CD8 $\alpha$ in direct ELISAs. In direct ELISAs, approximately 45% cross-reactivity with recombinant canine CD8, approximately 17% cross-reactivity with recombinant guinea pig CD8 $\alpha$ , and less than 2% cross-reactivity with recombinant mouse CD8 $\alpha$ is observed. |
| <b>Source</b>             | Polyclonal Sheep IgG                                                                                                                                                                                                                                                                                 |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                                            |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant cotton rat CD8 $\alpha$<br>Ser24-Asp182<br>Accession # AAL55392                                                                                                                                                                                      |
| <b>Formulation</b>        | Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*Small pack size (-SP) is supplied either lyophilized or as a 0.2 $\mu$ m filtered solution in PBS.                                                                              |

**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.

|                       | <b>Recommended Concentration</b>                                                                                                   | <b>Sample</b> |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Flow Cytometry</b> | 2.5 $\mu$ g/10 <sup>6</sup> cells                                                                                                  | See Below     |
| <b>CyTOF-ready</b>    | Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation. |               |

**DATA**



**PREPARATION AND STORAGE**

|                                |                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reconstitution</b>          | Sterile PBS to a final concentration of 0.2 mg/mL.                                                                                                                                                                                                                                                                                                       |
| <b>Shipping</b>                | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.<br>*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C                                                                                                                       |
| <b>Stability &amp; Storage</b> | <b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul> |

**BACKGROUND**

CD8 alpha (CD8 $\alpha$ ; also 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 plus 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. It will possess a 161 aa extracellular region (aa 24-184) that contains 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 identity with rat and mouse CD8 $\alpha$ , respectively.