

## Technical Data Sheet

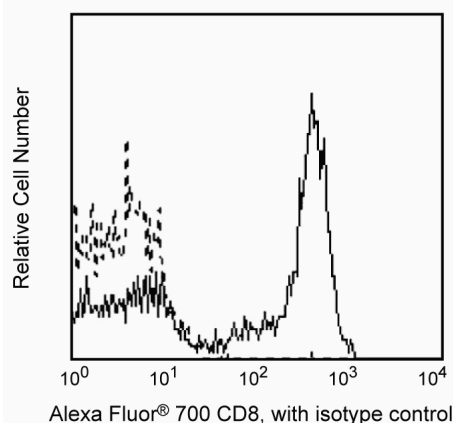
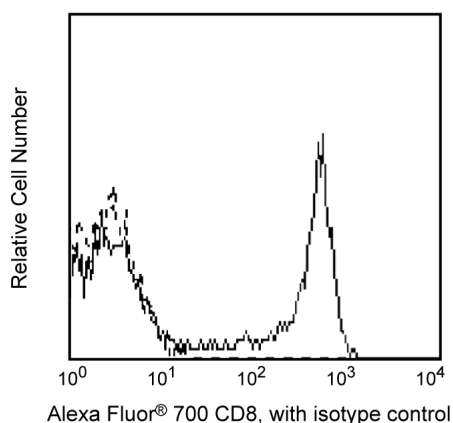
## Alexa Fluor® 700 Mouse Anti-Human CD8

## Product Information

<b>Material Number:</b>	<b>561026</b>
<b>Alternate Name:</b>	CD8 $\alpha$ ; CD8A; CD8 alpha; Leu2; MAL; T8; p32
<b>Size:</b>	25 $\mu$ g
<b>Concentration:</b>	0.2 mg/ml
<b>Clone:</b>	RPA-T8
<b>Immunogen:</b>	Human CD8a
<b>Isotype:</b>	Mouse IgG1, $\kappa$
<b>Reactivity:</b>	QC Testing: Human Tested in Development: Rhesus, Cynomolgus, Baboon
<b>Storage Buffer:</b>	Aqueous buffered solution containing protein stabilizer and $\leq 0.09\%$ sodium azide.

## Description

The RPA-T8 monoclonal antibody specifically binds to CD8 alpha (CD8 $\alpha$ ). CD8 $\alpha$  is a type I transmembrane glycoprotein and a member of the immunoglobulin superfamily. CD8 $\alpha$  is expressed by the majority of thymocytes, by subpopulations of  $\alpha\beta$  T cells and  $\gamma\delta$  T cells and by some NK cells. Cell surface CD8 $\alpha$  is expressed either as a disulfide-linked homodimer (CD8 $\alpha\alpha$ ) or as a heterodimer (CD8 $\alpha\beta$ ) when disulfide-bonded to a CD8 beta chain (CD8 $\beta$ ). CD8-positive  $\alpha\beta$  T cells coexpress both CD8 $\alpha\alpha$  homodimers and CD8 $\alpha\beta$  heterodimers whereas some  $\gamma\delta$  T cells and NK cells express CD8 $\alpha\alpha$  homodimers. CD8 plays important roles in T cell activation and selection. The extracellular IgSF domain of CD8 $\alpha$  binds to a non-polymorphic determinant on HLA class I molecules ( $\alpha 3$  domain) and enables CD8 to function as a co-receptor with MHC class I-restricted TCR during T cell recognition of antigen. The cytoplasmic domain of CD8 $\alpha$  associates with Lck, a Src family protein tyrosine kinase that is involved in intracellular signaling. The RPA-T8 and HIT8a monoclonal antibodies are not cross-blocking. This clone has been reported to react with a subset of peripheral blood lymphocytes, but not monocytes nor granulocytes, of baboon and both rhesus and cynomolgus macaque monkey. In general, a higher frequency of CD8+ and CD4+CD8+ lymphocytes are observed in non-human primates compared to normal human donors.



**Flow cytometric analysis of CD8 expression on peripheral blood lymphocytes.** Whole blood from human (left panel) or Rhesus macaque (right panel) was stained with either Alexa Fluor® 700 Mouse Anti-Human CD8 (Cat. No. 561026/561453; solid line histogram) or Alexa Fluor® 700 Mouse IgG1,  $\kappa$  Isotype Control (Cat. No. 557882; dashed line histogram). Erythrocytes were lysed with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899). Fluorescent histograms were derived from gated events with the side and forward light-scattering characteristics of viable lymphocytes.

## Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated to Alexa Fluor® 700 under optimum conditions, and unreacted Alexa Fluor® 700 was removed.

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## Application Notes

### Application

Flow cytometry

Routinely Tested

### Suggested Companion Products

Catalog Number	Name	Size	Clone
557882	Alexa Fluor® 700 Mouse IgG1, κ Isotype Control	0.1 mg	MOPC-21
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
349202	BD FACST™ Lysing Solution	100 mL	(none)
555899	Lysing Buffer	100 mL	(none)
561453	Alexa Fluor® 700 Mouse Anti-Human CD8	50 Tests	RPA-T8

### Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Alexa Fluor® 700 has an adsorption maximum of ~700nm and a peak fluorescence emission of ~720nm. Before staining cells with this reagent, please confirm that your flow cytometer is capable of exciting the fluorochrome and discriminating the resulting fluorescence.
5. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.
6. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
7. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
8. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
9. Please refer to [www.bdbiosciences.com/pharming/protocols](http://www.bdbiosciences.com/pharming/protocols) for technical protocols.

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