

Recombinant Anti-human CD3 Mouse IgG2a Kappa

Monoclonal Antibody (Clone: OKT3)

Catalog No.: PA007202. m2a

Background

The recombinant OKT3 antibody engineered by Syd Labs binds with high affinity and specificity to the CD3 epsilon (CD3 ϵ) chain of the T-cell receptor (TCR)-CD3 complex, a structure exclusively expressed on mature T cells and medullary thymocytes. When cross-linked in the presence of accessory cells (such as monocytes) or via plate-bound formats, this potent anti-human cd3 okt3 interaction triggers a profound cascade leading to T-cell activation (mitogenesis) in vitro. This unique biological property establishes the OKT3 clone as the gold-standard reagent for okt3 for t cell stimulation and robust okt3 t cell expansion protocols, particularly within CAR-T manufacturing and ex vivo adoptive cell therapy workflows.

In addition to ex vivo applications, this functional grade okt3 is highly critical for studying in vivo immune modulation and receptor dynamics. The OKT3 antibody fundamentally blocks the functional association between the antigen receptor and the CD3 complex, thereby halting both the generation and effector functions of cytotoxic T cells. Following an initial dose of this in vivo grade okt3, mature T cells rapidly disappear from the peripheral circulation within minutes to hours. During continuous treatment, T cells exhibiting typical lineage markers (CD2, CD4, and CD8) will eventually reappear in the bloodstream, but notably, these cells remain entirely devoid of surface CD3.

After a 48-hour cessation of OKT3 exposure, the normal array of surface molecules, including CD3, is re-expressed on all circulating T cells. This selective removal of CD3 via rapid internalization—known as comodulation of the antigen receptor—is considered the primary mechanism of action explaining the profound immunoblocking effects of the OKT3 clone in vivo. Because of this targeted modulation, the Syd Labs OKT3 antibody is exceptionally effective for modeling the induction of immunosuppression, tracking cellular depletion, and evaluating treatments for initial and steroid-resistant transplant rejections in humanized mouse models.

Source: The anti-human CD3 monoclonal antibody (clone: OKT3) was produced in mammalian cells.

Clone: OKT3 or OKT-3.

Isotype: mouse IgG2a, kappa.

Specificity/Sensitivity: The in vivo grade recombinant mouse monoclonal antibody (clone: OKT3) specifically binds to the human T cell receptor CD3.

Applications: ELISA, flow cytometry, neutralization, functional assays such as bioanalytical PK and ADA assays, and those assays for studying biological pathways affected by the human CD3 protein.

Form of Antibody: 0.2 μ M filtered solution, pH 7.4, no stabilizers or preservatives.

Purity: >95% by SDS-PAGE under reducing conditions and HPLC.

Endotoxin Level: Less than 1 EU/mg of the protein by the LAL method.

Shipping: The anti-human CD3 monoclonal antibody (clone number: OKT3) is shipped with ice pack. Upon receipt, store it immediately at the temperature recommended below.

Stability & storage:

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

1 month from date of receipt if stored at 2 to 8° C as supplied.

12 months from date of receipt if stored at -20 to -70° C as supplied.

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<https://www.duozhaozhao.com/anti-human-cd3e-antibody-pa007202-m2a/>