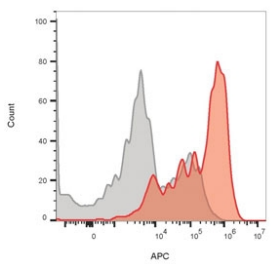
CD3e Antibody [clone OKT3] (V8204)

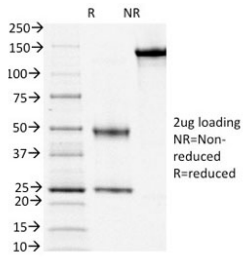
Catalog No.	Formulation	Size
V8204-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8204-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8204SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	OKT3
Purity	Protein G affinity chromatography
UniProt	P07766
Localization	Cell surface, cytoplasmic
Applications	Flow Cytometry : 1-2ug/10^6 cells Immunohistochemistry (acetone Fixed Frozen Sections) : Immunofluorescence : 1-2ug/ml Functional Studies (order BSA/azide-free Format) :
Limitations	This CD3e antibody is available for research use only.



Flow cytometry staining of lymphocyte-gated human PBM cells with CF640R-labeled CD3e antibody (clone OKT3). Gray=unstained, Red=CF640R-CD3e antibody.



SDS-PAGE analysis of purified, BSA-free CD3e antibody (clone OKT3) as confirmation of integrity and purity.

Description

CD3e antibody detects the epsilon chain of the CD3 complex, encoded by the CD3E gene. CD3 epsilon is a core component of the T-cell receptor-CD3 complex, which is essential for antigen recognition and T-cell activation. Because CD3 is expressed on nearly all mature T cells, CD3e antibody is a critical reagent in immunology, oncology, and translational medicine.

CD3 epsilon contains extracellular immunoglobulin-like domains, a single transmembrane region, and a cytoplasmic tail with immunoreceptor tyrosine-based activation motifs (ITAMs). These motifs initiate intracellular signaling upon antigen-MHC engagement. Phosphorylation of the ITAMs recruits kinases such as Lck and Zap70, activating downstream cascades including MAPK, NF-ÎºB, and NFAT. This signaling drives proliferation, effector differentiation, and cytokine secretion, establishing CD3 epsilon as a cornerstone of adaptive immunity.

The CD3e antibody clone OKT3 is one of the most historically important monoclonal antibodies in immunology. Clone OKT3 was the first monoclonal antibody approved for clinical use, originally employed to prevent transplant rejection by modulating T-cell activity. In research, it has been extensively cited in peer-reviewed studies examining T-cell signaling, receptor clustering, and immune checkpoint regulation. Its reproducibility makes it suitable for flow cytometry, immunohistochemistry, and in vitro functional assays.

Research using clone OKT3 has demonstrated how CD3 epsilon signaling integrates with costimulatory and inhibitory pathways to shape T-cell responses. The antibody has been applied in mechanistic studies of thymocyte development, immune synapse formation, and effector T-cell expansion. In oncology, clone OKT3 has supported work on bispecific antibodies and CAR T-cell strategies, where CD3 engagement drives targeted cytotoxicity against cancer cells. Its historical significance and broad application highlight its continuing relevance to both basic and translational research.

NSJ Bioreagents supplies this CD3e antibody to support immunology, oncology, and therapeutic development. Alternate terms include CD3 epsilon chain antibody, T-cell receptor CD3 complex antibody, T-cell surface glycoprotein CD3e antibody, TCR-associated protein epsilon antibody, and T-cell activation marker antibody.

Application Notes

Optimal dilution of the CD3e antibody should be determined by the researcher.

Immunogen

Human PBMC were used as the immunogen for the CD3e antibody.

Storage

Store the CD3e antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).