

## TECHNICAL DATA SHEET

# In Vivo Ready™ Anti-Human CD3 (OKT3)

Catalog Number: 40-0037

## PRODUCT INFORMATION

**Contents:** In Vivo Ready™ Anti-Human CD3 (OKT3)

**Isotype:** Mouse IgG2a, kappa

**Concentration:** 2 mg/mL

**Clone:** OKT3

**Reactivity:** Human

**Use By:** 12 months from date of receipt

**Storage Conditions:** 2-8°C

**Endotoxin Level:** Less than or equal to 0.01 EU/ug, as determined by the LaL assay

**Formulation:** 10 mM NaH<sub>2</sub>PO<sub>4</sub>, 150 mM NaCl, pH7.2

## DESCRIPTION

The OKT3 antibody is specific for human CD3e, also known as CD3 epsilon, a 20 kDa subunit of the T cell receptor complex along with CD3 gamma and CD3 delta. These integral membrane protein chains assemble with additional chains of the T cell receptor (TCR), as well as CD3 zeta chain, to form the T cell receptor - CD3 complex. Together with co-receptors CD4 or CD8, the complex serves to recognize antigens bound to MHC molecules on antigen-presenting cells. These interactions promote T cell receptor signaling (T cell activation), inducing a number of cellular responses including proliferation, differentiation, production of cytokines or activation-induced cell death. CD3 is differentially expressed during thymocyte-to-T cell development and on all mature T cells. The OKT3 antibody is a widely used phenotypic marker for human T cells. In addition, as the CD3e subunit of the TCR complex contains intracellular signaling domains, binding of OKT3 antibody to CD3e can induce cell activation. A recent publication of the crystal structure of a CD3e-mitogenic antibody complex provides further insight as to the action of commonly used agonist antibodies, as well as specific epitope-binding data for the widely used human CD3 antibodies OKT3 and UCHT1 (Fernandes, R.A. et al. 2012. J. Biol. Chem. 287: 13324-13335). OKT3 has also been shown to be cross-reactive with Chimpanzee CD3 and

## PREPARATION & STORAGE

This monoclonal antibody preparation was purified from tissue culture supernatant via affinity chromatography. For In Vivo Ready™ (IVR) products, each preparation is also evaluated for endotoxin levels using the LAL assay. It is recommended to store the product undiluted at 4°C. Do not freeze.

## APPLICATION NOTES

This purified format is guaranteed to be >90% pure as determined by SDS-PAGE analysis. Citations are provided as a convenience to you - please consult Materials and Methods sections for additional details about the use of any product in these publications.

## REFERENCES

- Haga-Friedman A, Horovitz-Fried M, and Cohen CJ. Jun 2012. J. Immunol. 188:5538-5546. (in vitro activation)
- Bikker A, Moret FM, Kruijze AA, Bijlsma JWJ, Lafeber FPJG, and van Roon JAG. Jun 2012. Rheumatology 51:996-1005 (in vitro activation) Bagnara D, Kaufman MS, Calissano C, et al. 2011. Blood. 117: 5463-5472. (in vivo depletion)
- Nguyen V, Cao L, Lin JT, Hung N, Ritz A, Yu K, Jianu R, Ulin SP, Raphael BJ, Laidlaw DH, Brossay L, and Salomon AR. 2009. Mol. Cell. Proeomics. 8: 2418-2431. (in vitro activation)
- Bibollet-Ruche F, McKinney BA, Duverger A, Wagner FH, Ansari AA, and Kutsch O. 2008. J. Virol. 82(20): 10271-10278. (in vitro activation – Chimpanzee)

Tonbo Biosciences tests all antibodies by flow cytometry. Citations are provided as a resource for additional applications that have not been validated by Tonbo Biosciences. Please choose the appropriate format for each application and consult Materials and Methods sections for additional details about the use of any product in these publications.

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