Anti-Human CD3 monoclonal antibody

Product Name

Anti-Human CD3 monoclonal antibody

Size/Catalog Number

500μg / GMP-TL101-0500

Product Information

Expression system: Chinese Hamster Ovary (CHO) Cells
Purity: > 95% as determined by SDS-PAGE and HPLC
Endotoxin: < 0.01 EU per 1 μg of protein (LAL method)
Activity: Binding rate with Jurkat cells is ＞90%
Purification: Protein A sepharose affinity
Form: Liquid
Storage Buffer: 20mM Phosphate Buffer, pH 7.4 (containing 150 mM NaCl), Preservative: Human Serum Albumin

Background

The recombinant humanized anti-CD3 monoclonal antibody is a full-length IgG1 molecule produced in CHO stable cells, engineered to specifically engage the extracellular Ig-like domain of CD3ε chain, thereby inducing TCR-CD3 complex crosslinking and ITAM domain phosphorylation to activate PLCγ1-PKC-MAPK signaling cascades that overcome T-cell activation thresholds. As a pivotal T-cell activator in ex vivo expansion systems, it drives naive T-cell differentiation into effector/memory phenotypes and sustains CAR-T cell clonal expansion through metabolic synergy with IL-2/IL-15, while its glycoengineered Fc domain eliminates FcγR-mediated cytokine storm risks. In adoptive immunotherapy development, this antibody dynamically modulates CD28 costimulatory signaling to enhance tumor antigen reactivity of TIL products, suppresses Treg expansion, and validates CD3-targeted bispecific antibody (CD3xTarget) functionality during NK cell activation/expansion, establishing a versatile platform for solid/hematologic tumor immunotherapy. Production employs animal component-free media and chromatographic purification to ensure ultra-low endotoxin levels and host protein contamination control, meeting comprehensive quality standards across cell therapy applications.

Stability & Storage

Stable for up to 24 months when stored at 2-8°C under sterile condition.

References

1. Silvia M Bacot, Taylor A Harper, Rebecca L Matthews, Christie Jane Fennell, Adovi Akue, Mark A KuKuruga, Shiowjen Lee, Tao Wang, Gerald M Feldman. Exploring the Potential Use of a PBMC-Based Functional Assay to Identify Predictive Biomarkers for Anti-PD-1 Immunotherapy. Int J Mol Sci. 2020 Nov 27;21(23):9023.

2. Min Zhou, Jing Wang, Cui-Ping Li, Jing-Yan Xu, Bing Chen. Autologous Cytokine-Induced Killer Cell Immunotherapy for Patients with High-Risk Diffuse Large B Cell Lymphoma After the First Complete Remission. Onco Targets Ther. 2020 Jun 22;13:5879-5885.

Intended Us

For research and manufacturing purposes only.