



Application

- Immunization
- Cell based assay (FACS or functional assay)
- Screening ([ELISA](#))

Synonyms

TCR & CD3E & CD3D & CD3G & CD3Z

Source

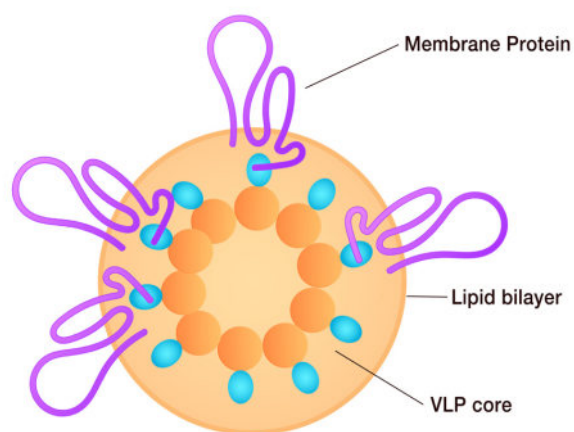
Rhesus macaque TCR & CD3E & CD3D & CD3G & CD3Z Full Length Protein Complex (VLP) (TCZ-R5213) is expressed from human 293 cells (HEK293).

Predicted N-terminus: Phe

Molecular Characterization

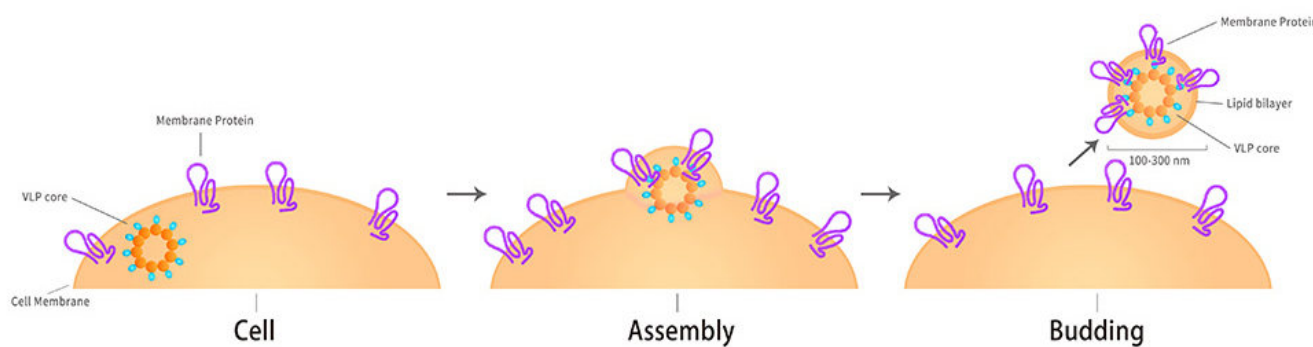
*The isotype control of empty/mock VLP (Cat. No. [VLP-N5213](#)) is sold separately and not included in protein, you can follow [the link](#) for product information.

• Structure



Virus-like particles (VLPs) are protein particles that mimic the shape of viruses but lack a viral genome, and incorporating transmembrane proteins on the external surface.

• Synthesis Process



Envelope virus-like particles (eVLPs) are produced by **co-expressing target membrane proteins with viral structural proteins in mammalian cells**, enabling native embedding of membrane proteins into the lipid bilayer during VLP budding. This approach preserves authentic conformation, post-translational modifications, and orientation, while creating a completely detergent-free environment with repetitive multivalent display and **strong immunogenicity** making them ideal for immunization, binding assays in antibody discovery and screening (ELISA), and cell-based assays such as FACS, etc.

Endotoxin

Less than 1.0 EU per μg by the LAL method / rFC method.

Purity

>95% as determined by SEC-HPLC.

Formulation

The VLPs are highly immunogenic, so the immunization strategy should be optimized (antigen dose, regimen and adjuvant).

Supplied as 0.2 μm filtered solution in PBS, Arginine, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Shipping and Storage

This product is supplied and shipped on dry ice.

Please avoid repeated freeze-thaw cycles.

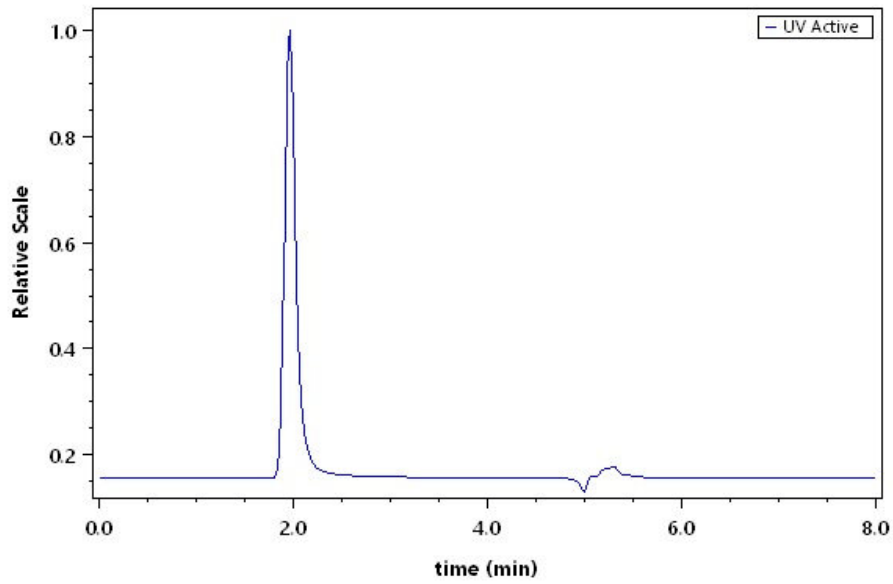
This product is stable after storage at:

- The product MUST be stored at -70°C or lower upon receipt;
- -70°C for 12 months under sterile conditions.

ACRO Quality Management System

- [QMS\(ISO, GMP\)](#)
- [Quality Advantages](#)
- [Quality Control Process](#)

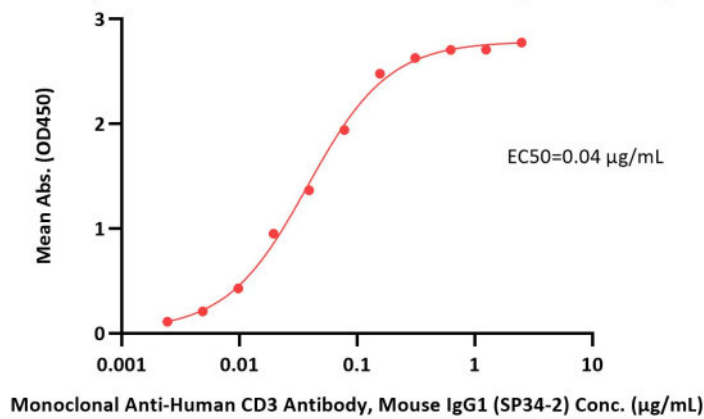
SEC-HPLC



The purity of Rhesus macaque TCR & CD3E & CD3D & CD3G & CD3Z Full Length Protein Complex (VLP) (Cat. No. TCZ-R5213) was greater than 95% as determined by SEC-HPLC.

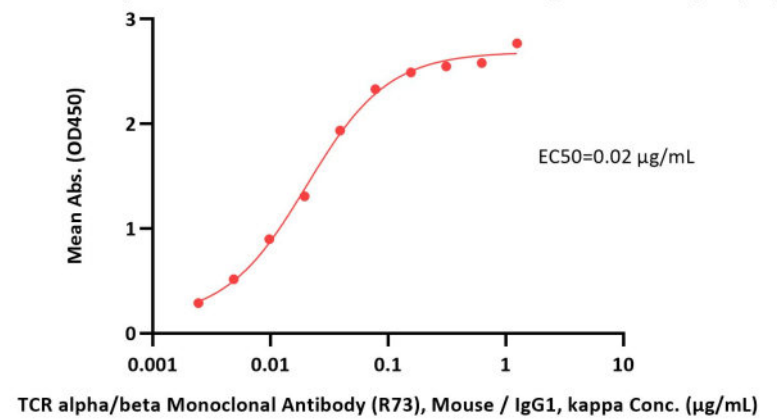
Bioactivity-ELISA

Rhesus macaque TCR & CD3E & CD3D & CD3G & CD3Z Full Length Protein Complex (VLP) ELISA
0.5 µg of Rhesus macaque TCR & CD3E & CD3D & CD3G & CD3Z Full Length Protein Complex (VLP) per well



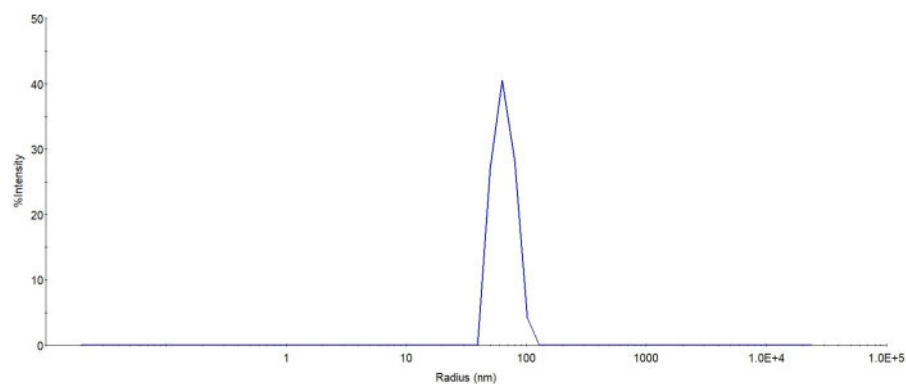
Immobilized Rhesus macaque TCR & CD3E & CD3D & CD3G & CD3Z Full Length Protein Complex (VLP) (Cat. No. TCZ-R5213) at 5 µg/mL (100 µL/well) can bind Monoclonal Anti-Human CD3 Antibody, Mouse IgG1 (SP34-2) with a linear range of 0.002-0.156 µg/mL (QC tested).

Rhesus macaque TCR & CD3E & CD3D & CD3G & CD3Z Full Length Protein Complex (VLP) ELISA
0.5 µg of Rhesus macaque TCR & CD3E & CD3D & CD3G & CD3Z Full Length Protein Complex (VLP) per well



Immobilized Rhesus macaque TCR & CD3E & CD3D & CD3G & CD3Z Full Length Protein Complex (VLP) (Cat. No. TCZ-R5213) at 5 µg/mL (100 µL/well) can bind TCR alpha/beta Monoclonal Antibody (R73), Mouse / IgG1, kappa with a linear range of 0.002-0.078 µg/mL (Routinely tested).

Identity-DLS



The mean peak Radius of VLP is 60-80 nm with more than 95% intensity as determined by dynamic light scattering (DLS).

Background

Cluster of Differentiation 3 (CD3) is a pivotal multimeric T cell co-receptor complex essential for adaptive immune responses. Composed of epsilon (ϵ), gamma (γ), delta (δ), and zeta (ζ) polypeptide chains forming three distinct dimers ($\epsilon\gamma$, $\epsilon\delta$, $\zeta\zeta$), CD3 non-covalently associates with the T-cell receptor (TCR) to establish the critical TCR/CD3 receptor complex on T cell surfaces. Structurally, CD3 proteins belong to the immunoglobulin superfamily, featuring a transmembrane domain, an N-terminal extracellular region with immunoglobulin-like domains, and cytoplasmic tails embedded with immunoreceptor tyrosine-based activation motifs (ITAMs). These ITAMs are fundamental for initiating signal transduction upon T cell receptor engagement, thereby activating both CD4⁺ T helper and CD8⁺ cytotoxic T cells. As a defining marker of the T cell lineage, CD3's central role in T cell activation makes its modulation, via stimulating or blocking antibodies, a promising therapeutic avenue for conditions like organ transplant rejection and autoimmune diseases.

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