

# Biotinylated Human TSHR Full Length Protein (VLP)

Catalog # TSR-H82P3



BIOSYSTEMS  
**Acro**

## Application

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

## Synonyms

TSHR, TSH-R, LGR3, TSH R

## Source

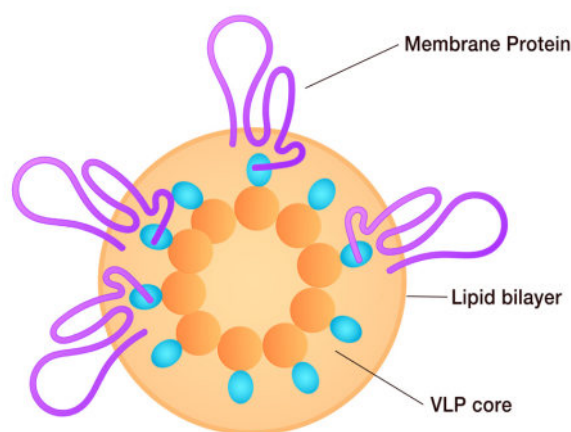
Biotinylated Human TSHR Full Length Protein (VLP) (TSR-H82P3) is expressed from human 293 cells (HEK293). It contains AA Gly 21 - Leu 764 (Accession # [P16473-1](#)).

Predicted N-terminus: Asp

## Molecular Characterization

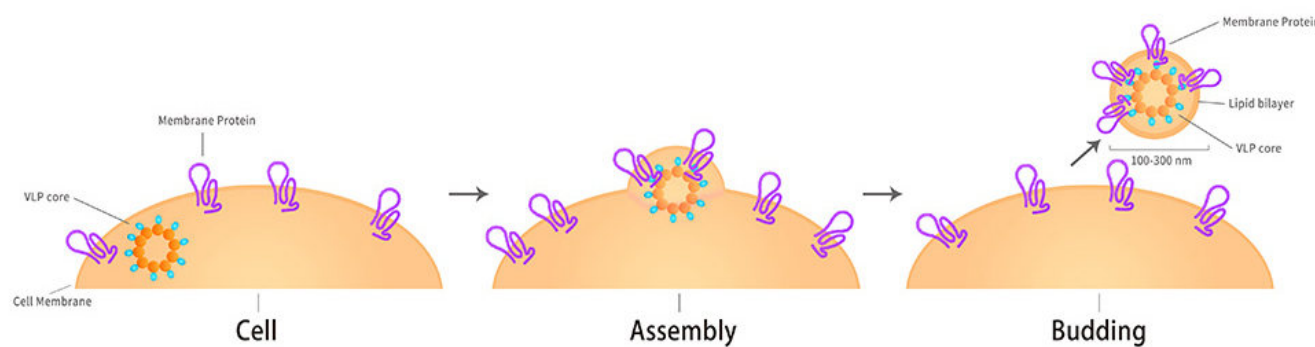
\*The isotype control of empty/mock VLP (Cat. No. [VLP-N82P3](#)) is sold separately and not included in protein, you can follow [the link](#) for product information.

### • 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.

## Conjugate

Biotin-labeled

## Labeling

The VLP is biotinylated with proprietary technology.

## Protein Ratio

Passed as determined by the HABA assay / binding ELISA.

## 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.

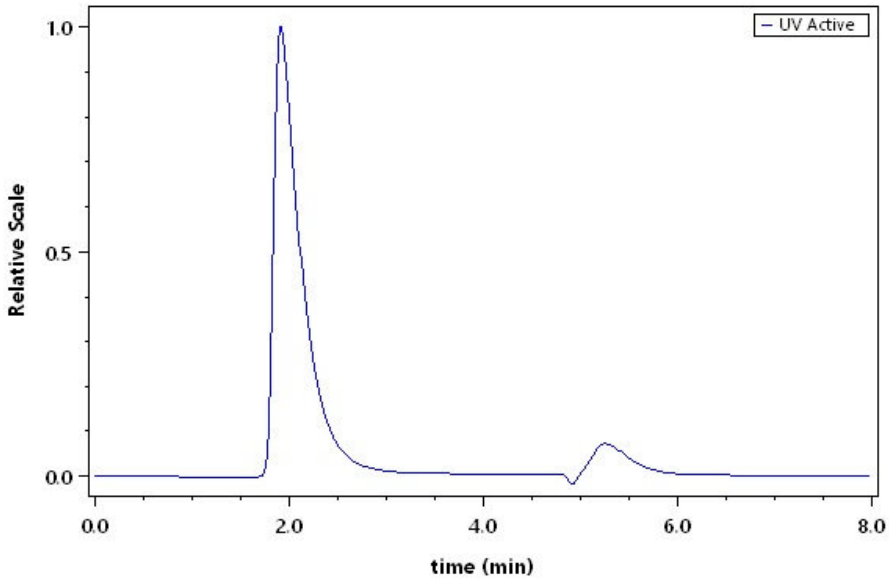
This product is stable after storage at:

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

ACRO Quality Management System

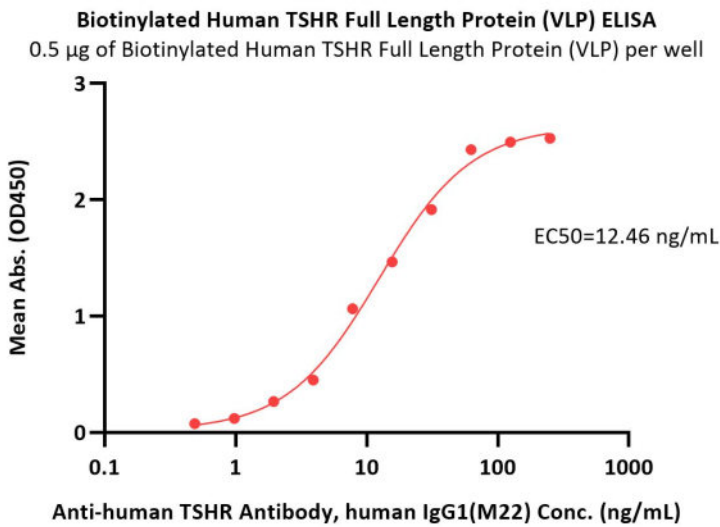
- [QMS\(ISO, GMP\)](#).
- [Quality Advantages](#)
- [Quality Control Process](#)

SEC-HPLC



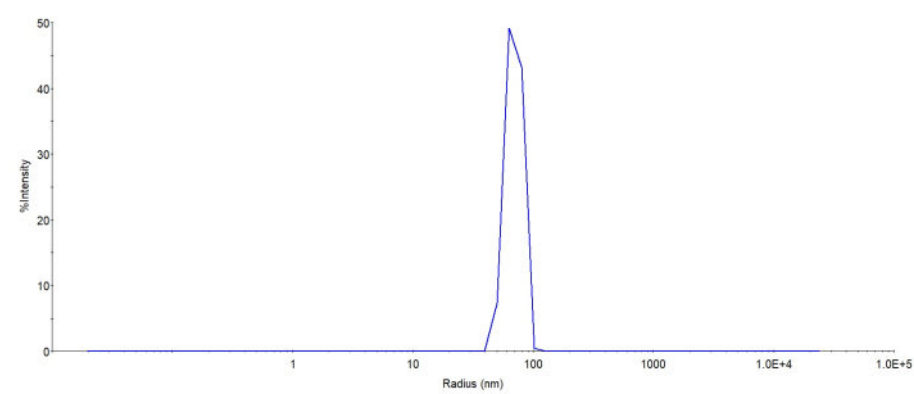
The purity of Biotinylated Human TSHR Full Length Protein (VLP) (Cat. No. TSR-H82P3) was greater than 95% as determined by SEC-HPLC.

Bioactivity-ELISA



Immobilized Biotinylated Human TSHR Full Length Protein (VLP) (Cat. No. TSR-H82P3) at 5 µg/mL (100 µL/well) on streptavidin (Cat. No. STN-N5116) precoated (0.5 µg/well) plate can bind Anti-human TSHR Antibody, human IgG1(M22) with a linear range of 0.5-31 ng/mL (QC 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

The Thyroid-Stimulating Hormone Receptor, a glycoprotein hormone receptor driving thyroid growth and hormone synthesis. It is the primary autoantigen in Graves' disease and a key target for managing thyroid cancer recurrence via TSH suppression and radioiodine imaging/therapy in differentiated thyroid cancers.

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