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# Product Information

## Parvovirus B19 VP1 Virus-like Particles (B19 VP1 VLPs)-E.coli

Cat. No.: **VLP-023YF**
This product is for research use only and is not intended for diagnostic use.

Recombinant Parvovirus B19 Virus-like Particles (B19 VLPs) are produced in E.coli expression system with VP1 structure protein. VLP is mimicking the native 3D structure of viruses which can elicit strong immune responses. However, VLPs lack viral genomic material which makes them non-infectious, unable to replicate and enhance the safety during manufacture and administration. B19 VLPs can be used in the development of B19 diagnostics and in vaccine development and R&D (including use as an immunogen).

## Product Specifications

**Structural Proteins**
227 amino acids from the N-terminus of VP1 protein

**Expression Systems**
Escherichia coli expression system

**Purity**
>90%

**Buffer**
PBS, pH 7.4 containing 0.02% sodium azide

**Form**
Liquid

**Alternative Names**
Parvovirus B19 VP1 Virus-like Particles; B19 VP1 VLPs; VLPs; Virus-like Particles; erythrovirus B19 virus; Parvovirus B19 Virus; B19 Virus; B19 Virus-like Particles

**Storage**
Store at 4°C short term (2-4 weeks). Store at -80 °C long term. Avoid repeated freeze/thaw cycles.

## Virus Background

**Virus Family**
Parvoviridae

**Virus Species**
Primate erythroparvovirus 1

**Virus Overview**
Erythroviruses belong to the Parvoviridae family of small DNA viruses. It is a non-enveloped, icosahedral virus that

contains a single-stranded linear DNA genome of approximately 5,600 base pairs in length. The infectious particles may contain either positive or negative strands of DNA. The icosahedral capsid consists of 60 capsomeres, consisting of two structural proteins, VP1 (83 kDa) and VP2 (58 kDa), which are identical except for 227 amino acids at the amino-terminal of the VP1-protein, the so-called VP1-unique region. VP2 is the major capsid protein, and comprises approximately 95% of the total virus particle. VP1-proteins are incorporated into the capsid structure in a non-stoichiometrical relation (based on antibody-binding analysis and X-ray structural analysis the VP1-unique region is assumed to be exposed at the surface of the virus particle. At each end of the DNA molecule there are palindromic sequences which form "hairpin" loops. The hairpin at the 3' end serves as a primer for the DNA polymerase. It is classified as an erythrovirus because of its capability to invade red blood cell precursors in the bone marrow. Three genotypes (with subtypes) have been recognised.

**Virus Structure**

Non-enveloped, single-stranded linear DNA

**Related Disease**

Fifth disease, AIDS, Arthritis and arthralgias, Aplastic crisis, Hydrops fetalis

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