

Product # P222

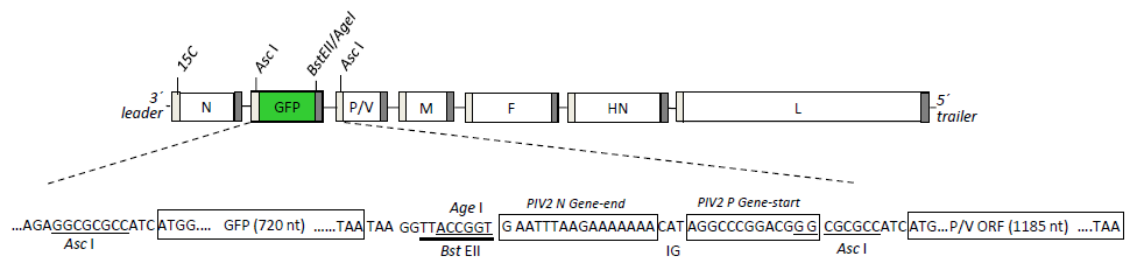
Human Parainfluenza Virus Type 2 with Green Fluorescent Protein (PIV2-GFP)

Introduction

Human parainfluenza virus type 2 (PIV2) is an enveloped, non-segmented, negative-strand RNA virus belonging to genus *Rubulavirus* of the family *Paramyxoviridae*. The genome is 15,654 nucleotides in length and encodes 7 polypeptides from 6 genes arranged in the order 3'-N-V/P-M-F-HN-L-5'. Transcription and replication are directed by the viral nucleocapsid protein (N), the phosphoprotein (P), and the large polymerase (L) protein. The fusion (F) and hemagglutinin-neuraminidase (HN) glycoproteins are associated with the viral envelope, along with the internal matrix protein (M). The HN and F proteins are the major protective antigens of parainfluenza viruses and are the two virus neutralization antigens. The V protein has been identified as an antagonist of the interferon (IFN) response affecting both induction of type I IFN and signaling through the IFN receptor. PIV2 is a medically important respiratory pathogen that causes croup and bronchiolitis in infants and young children. By the age of 5 years old, 60% have had this type of parainfluenza. Currently, no effective vaccines or antiviral therapies are licensed to prevent PIV disease.

Description

The backbone of PIV2-GFP is a recombinant version of strain V94 (Genbank# AF533010) that contains a non-coding T to C substitution at nucleotide 15 – rV94(15C). The 15C substitution was a tissue culture adaption that resulted a slight attenuation in monkeys. An *AscI* restriction site was added between N and P, and GFP (EGFP, Clontech) sequence was amplified by PCR with added N-P start and stop signals and cloned into the *AscI* site of PIV2-15C. Viruses were rescued in BHK-T7 cells, then propagated and cloned by serial terminal dilutions on LLC-MK2 cells.

Schematics of PIV2-GFP Genome (16428 nt)

Specification

Parental Strain: V94(15C)

Construction: GFP gene was inserted between the N and P genes as the 2nd gene.Passage History: The isolate was purified and propagated in LLC-MK₂ cells.Infectivity: Titer > 7.0 log₁₀ TCID₅₀ per mL. Infectious in humans.

Volume/Storage: 2 x 1.2 mL per cryovial. Store at -80°C.

Quality Testing: No bacteria, fungus, or mycoplasma detected. Endotoxin < 10 EU/mL.

Availability: Bulk quantity and custom orders are available. Contact info@viratree.com.