

## SARS-CoV-2 Spike Protein S1-Receptor-Binding Domain- Beta (B.1.351)\_HEK

### Description:

InVivo offers a recombinant form of the Spike protein receptor binding domain (RBD) from severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), based on Wuhan-Hu-1-isolate (MN908947), which is produced under serum-free conditions in HEK-INV cells (InVivo proprietary optimized; human embryonic kidney, HEK293 cells).

### RBD-Beta (B.1.351) variant; containing mutations K417N, E484K, N501Y.

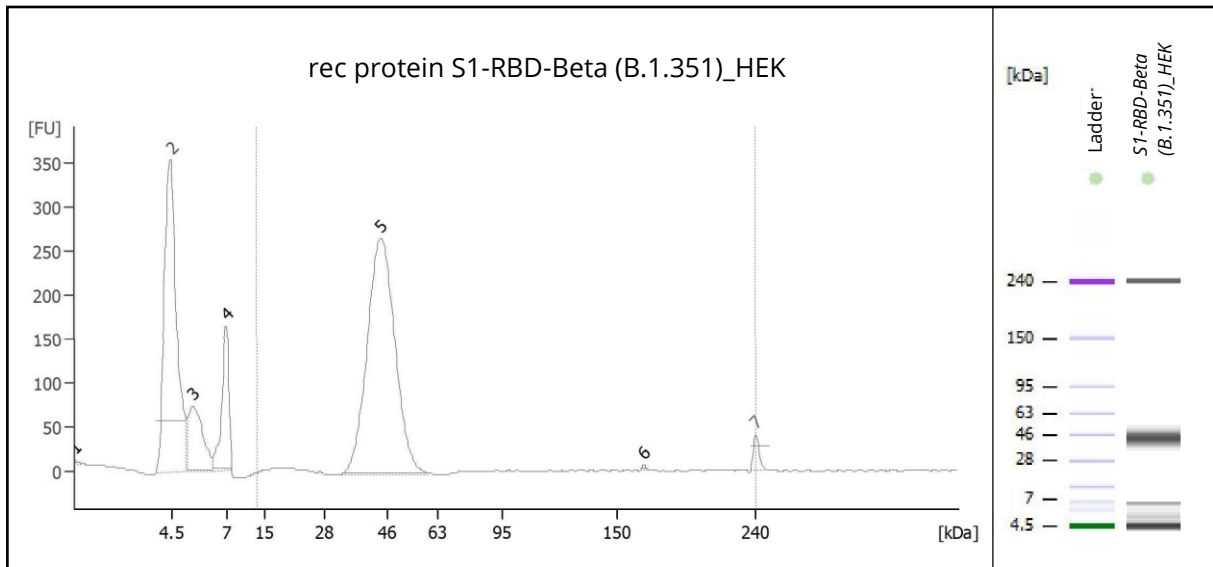
Protein design and manufacturing process is based on InVivo's RBD protein (aa 319-541). The protein includes a C-terminal hexa-histidine-tag and is purified using immobilized metal exchange chromatography (IMAC) and preparative SEC (for polishing).

|                                   |  |
|-----------------------------------|--|
| <b>Product-ID:</b>                | S1-RBD-Beta (B.1.351)_HEK  |
| <b>Expression System:</b>         | Mammalian; HEK   |
| <b>Protein Accession Number:</b>  | GenBank: <a href="#">QHD43416.1</a> / UniProt: <a href="#">P0DTC2</a>        |
| <b>Amino Acids:</b>               | Arg319-Phe541  |
| <b>Mutations:</b>                 | K417N, E484K, N501Y  |
| <b>Mature Protein N-Term:</b>     | Arg319 (predicted)   |
| <b>Tag:</b>                       | 6 x His-tag; C-terminal  |
| <b>Expected Molecular Weight:</b> | 26 kDa ( <i>glycosylated form runs at 25-40 kDa in gel electrophoresis</i> ) |
| <b>Formulation:</b>               | Liquid, 20 mM NaPP, 300 mM NaCl pH 7.2                                       |
| <b>Concentration:</b>             | ≥ 0.5 mg/ mL   |
| <b>Purity:</b>                    | ≥ 90% ( <i>via analytical CGE under reducing conditions</i> )                |

The product is for research use or for further manufacturing only.

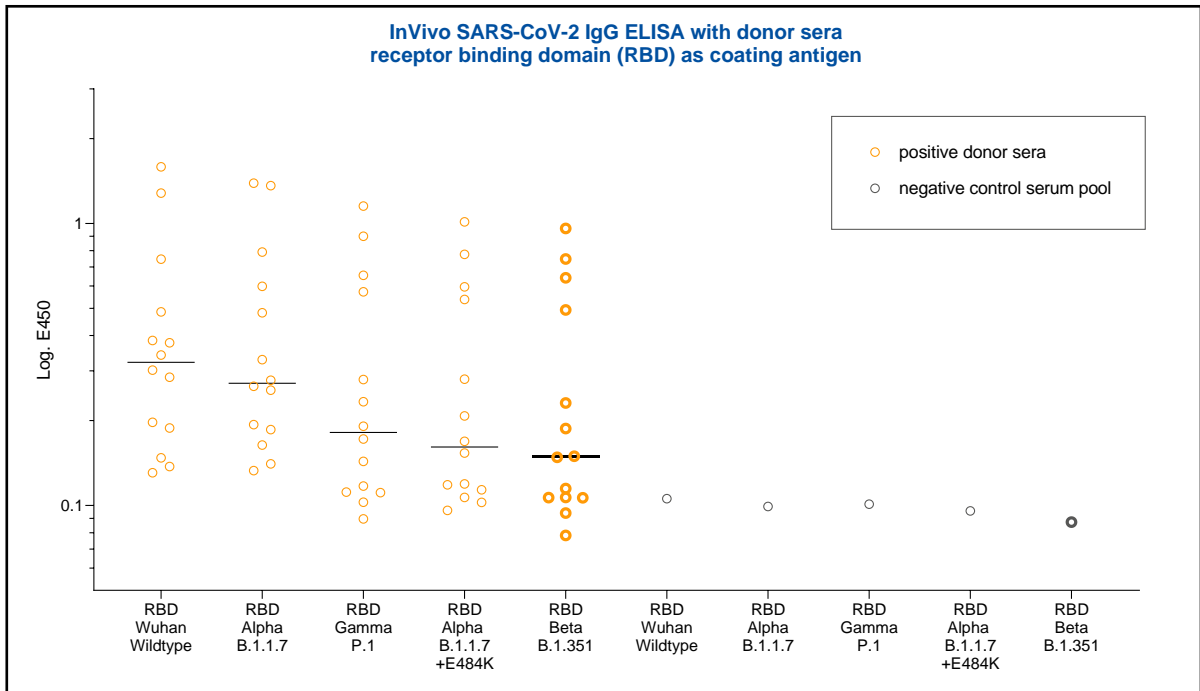
**Purity (analytical CGE, under reducing conditions):**

Please note: Glycosylated form of S1-RBD-Beta (B.1.351)\_HEK runs at 25-40 kDa in gel electrophoresis



| Peak | Size [kDa] | % of Total | Peak Identification |
|------|------------|------------|---------------------|
| 1    | 0.0        | 0.0        | Unknown             |
| 2    | 4.5        | 0.0        | Lower Marker        |
| 3    | 5.4        | 0.0        | System Peak         |
| 4    | 7.0        | 0.0        | System Peak         |
| 5    | 44.0       | ≥ 90%      | RBD-Beta            |
| 6    | 167.0      | 0.2        | Unknown             |
| 7    | 240.0      | 0.0        | Upper Marker        |

**Protein Activity (ELISA):**



**SARS-CoV-2 receptor-binding domains (RBD-Wuhan, Alpha, Gamma, Alpha+E484K and Beta) recombinantly expressed in HEK cells tested as solid phase bound capture antigen at 2 µg/mL in an in-house SARS-CoV-2 IgG ELISA.**

14 SARS-CoV-2 positive patient serum samples (obtained before October 2020) vs. one negative control serum pool (obtained before 2018). The line indicates the median of the absorbance values.