

#### DESCRIPTION

<b>Source</b>	Chinese Hamster Ovary cell line, CHO-derived human Wnt/RSPO1 protein Proprietary
<b>Structure / Form</b>	Disulfide-linked homodimer

#### SPECIFICATIONS

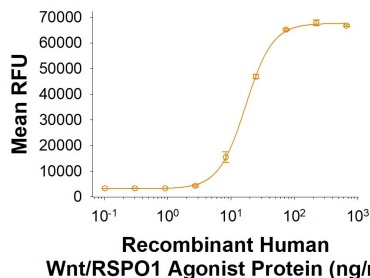
<b>SDS-PAGE</b>	86-96 kDa and >190 kDa, under reducing conditions.
<b>Activity</b>	Measured by its ability to activate TCF reporter activity in HEK293 human embryonic kidney cells. The ED <sub>50</sub> for this effect is 7.00-84.0 ng/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

#### PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 500 µg/mL in PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

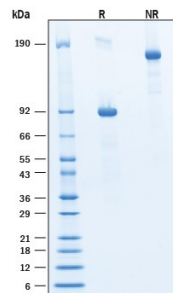
#### DATA

##### Bioactivity



**Recombinant Human Wnt/RSPO1 Agonist Protein Bioactivity.** Recombinant Human Wnt/RSPO1 Agonist (Catalog # BT-WRSP1) activates TCF reporter activity in HEK293 human embryonic kidney cells. The ED<sub>50</sub> for this effect is 7.00-84.0 ng/mL.

##### SDS-PAGE



**Recombinant Human Wnt/RSPO1 Agonist Protein SDS-PAGE.** 2 µg/lane of Recombinant Human Wnt/RSPO1 Agonist Protein (Catalog # BT-WRSP1) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 86-96 & >190 kDa under reducing conditions.

#### BACKGROUND

Wnt signaling is known to promote self-renewal of adult stem cells. R-Spondins amplify Wnt signaling in adult stem cells by binding to LGR5 receptors resulting in increased levels of Wnt receptor localization at the membrane surface. Many current organoid protocols include addition of Wnt-3a and R-Spondin proteins to the media for optimal adult stem cell maintenance and health of organoids. Fusion proteins known as Wnt Surrogates have been described that have enhanced solubility when compared to the widely used Wnt-3a protein and mirror the activities of Wnt signaling.<sup>1</sup> R&D Systems has constructed recombinant fusion proteins designed to bind elements of the Wnt receptor system including LGR-5, Frizzled, and LRP-5/6. These can initiate canonical Wnt signaling and are designed to simplify cell culture protocols by substituting for conditioned media or the addition of recombinant Wnt and R-Spondin.

#### References:

1. Janda *et al.* (2017) Nature **545**:234.