Datasheet

Catalog # AMS.RS1-M5220

Description

Source	(Mouse RSPO1) Ser 21 - Gln 265 (Accession # NP 619624.2) was produced in human 293 cells (HEK293)
Predicted N-terminus	Ser 21
Molecular Characterization	Mouse RSPO1 is fused with a polyhistidine tag at the C-terminus, and has a calculated MW of 27.9 Kda. The predicted N-terminus is Ser 21. DTT-reduced Protein migrates as 50 kDa in SDS-PAGE due to glycosylation.
Endotoxin	Less than 1.0 EU per μg of the Mouse RSPO1 by the LAL method.
Purity	>70% as determined by SDS-PAGE.

Formulation and Storage

Formulation	Lyophilized from 0.22 μm filtered solution in PBS, pH7.4. Normally Mannitol or Trehalose are added as protectants before lyophilization. Contact us for customized product form or formulation.
Reconstitution	See Certificate of Analysis for reconstitution instructions and specific concentrations.
Storage	Lyophilized Protein should be stored at -20℃ or lower for long term storage. Upon reconstitution, working aliquots should be stored at -20℃ or -70℃. **Avoid repeated freeze-thaw cycles.** No activity loss was observed after storage at: • 4-8℃ for 12 months in lyophilized state; • -70℃ for 3 months under sterile conditions after reconstitution.

Background and References

Background

R-spondin-1 is also known as Roof plate-specific Spondin 1 (RSPO1) and cysteinerich and single thrombospondin domain containing protein 3 (Cristin 3), is a secreted protein which belongs to the R-Spondin family and encodes a secreted activator protein with two cystein-rich, furin-like domains and one thrombospondin type 1 domain. All Rspondins regulate Wnt/β-catenin signaling, but have distinct expression patterns. Like other R-Spondins, R-Spondin-1 contains two adjacent cysteinerich furinlike domains (aa 34-135) with one potential N-glycosylation site, followed by a thrombospondin (TSP1) motif (aa 147-207) and a region rich in basic residues (aa 211-263). Only the furinlike domains are needed for β-catenin stabilization. A putative nuclear localization signal at the C-terminus may allow some expression in the nucleus. Potential isoforms of 200 and 236 aa have an alternate, shorter N-terminus or are missing aa 146-208, respectively. R-Spondin-1 is expressed in early development at the roof plate boundary and is thought to contribute to dorsal neural tube development. Human RSPO1 disruption results in a recessive syndrome characterized by XX sex reversal, palmoplantar hyperkeratosis and predisposition to squamous cell carcinoma of the skin. It has been shown that the complete female-to-male sex reversal is due to the absence of the testis-determining gene, SRY. R-Spondin-1 regulates Wnt/β-catenin by competing with the Wnt antagonist DKK1 for binding to the Wnt co receptors, Kremen and LRP6, reducing their DKK1 mediated internalization. Reports differ on whether R-spondin 1 binds LRP6 directly.

References

(1) Parma, P. et al., 2006, Nature genetics. 38 (11): 1304-9.
(2) Capel, B., 2006, Nature genetics. 38 (11) :1233-4.
(3) Binnerts, ME. et al., 2007, Proc Natl Acad Sci. 104 (37): 14700-5.

AMSBIO | www.amsbio.com | info@amsbio.com

UK & Rest of the World
184 Park Drive, Milton Park
Abingdon OX14 4SE, UK
T: +44 (0)1235 828 200
F: +44 (0) 1235 820 482

North America
1035 Cambridge Street,
Cambridge, MA 02141
T: +1 (617) 945-5033 or
T: +1 (800) 987-0985
F: +1 (617) 945-8218

Germany
Bockenheimer Landstr. 17/19
60325 Frankfurt/Main
T: +49 (0) 69 779099
F: +49 (0) 69 13376880

Switzerland
Centro Nord-Sud 2E
CH-6934 Bioggio-Lugano
T: +41(0) 91 604 55 22
F: +41(0) 91 605 17 85

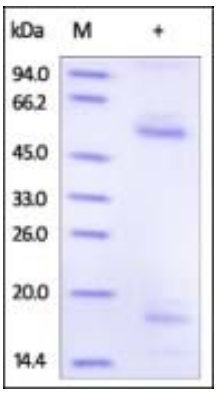
Datasheet

Catalog # AMS.RS1-M5220

Assay Data

SDS-PAGE Data

The purity of Mouse RSPO1 was determined by DTT-reduced (+) SDS-PAGE and staining overnight with Coomassie Blue.



AMSBIO | www.amsbio.com | info@amsbio.com

UK & Rest of the World
184 Park Drive, Milton Park
Abingdon OX14 4SE, UK
T: +44 (0)1235 828 200
F: +44 (0) 1235 820 482

North America
1035 Cambridge Street,
Cambridge, MA 02141
T: +1 (617) 945-5033 or
T: +1 (800) 987-0985
F: +1 (617) 945-8218

Germany
Bockenheimer Landstr. 17/19
60325 Frankfurt/Main
T: +49 (0) 69 779099
F: +49 (0) 69 13376880

Switzerland
Centro Nord-Sud 2E
CH-6934 Bioggio-Lugano
T: +41(0) 91 604 55 22
F: +41(0) 91 605 17 85