

TECHNICAL DATA SHEET

Recombinant Human R-Spondin 1 (Carrier-free)

Catalog Number: 21-7126

RPx-Pro™ Recombinant Protein

PRODUCT INFORMATION

CONTENTS

Recombinant Human R-Spondin 1 (Carrier-free)

DESCRIPTION

R-Spondin 1 (RSPO1) is a secreted protein belonging to the R-Spondin family of four structurally related Wnt/beta-catenin signaling regulators. All four members contain one thrombospondin-like and two furin-like domains. During early development, R-Spondin 1 is thought to play a role in neural tube development. It has also been shown to be involved in female gonad determination. R-Spondins can enhance Wnt/beta-catenin signaling as they compete with the Wnt agonist DKK-1 for binding to Wnt co-receptors LRP6/Kremen. They can also act as a signaling activation ligand on LRP6 and LGR4 to form a cluster with WNT and FZD. The R-Spondins have been demonstrated to bind to LGR-4, LGR-5 and LGR-6 receptors with high affinity.

MOLECULAR MASS

Recombinant Human R-Spondin 1 is a 243 amino acid protein with a molecular weight of 26.7 kDa. Due to glycosylation, it migrates at about 40 kDa under reducing conditions.

AMINO ACID SEQUENCE

SRGIKGRQR RISAEGSQAC AKGCELCSEV NGCLKCSPKL FILLERNDIR QVGVCLPSCP PGYFDARNPD MNKCIKCKIE
HCEACFSHF CTKCKEGLYL HKGRCYPACP EGSSAANGTM ECSSPAQCEM SEWSPWGPCS KKQQLCGFRR GSEERTRRVL
HAPVGDHAAC SDTKETRRCT VRRVPCPEGQ KRRKGGQGRR ENANRNLARK ESKEAGAGSR RRGKQQQQQQ QGTVGPLTSA GPA

SOURCE

CHO cells

APPLICATIONS

Bioassay

PURITY

95 %

STORAGE

-20°C

PROTEIN CONTENT

Verified by UV Spectroscopy and/or SDS-PAGE gel.

ENDOTOXIN LEVEL

Endotoxin level is <0.1 ng/μg of protein (<1 EU/μg).

AUTHENTICITY

Verified by N-terminal and Mass Spectrometry analyses (when applicable).

CROSS REACTIVITY

Mouse

BIOACTIVITY

The expected ED₅₀ is 1.0-3.0 ug/ml, based on measuring the R-Spondin-1 enhancement of BMP-2-mediated differentiation of MC3T3-E1 cells.

RESEARCH AREAS

Cancer, Proliferation, Neurobiology

RECONSTITUTION

See Certificate of Analysis (COA) for lot specific reconstitution information.

REFERENCES

Jin YR and Yoon JK. 2012. Int J Biochem Cell Biol. 44(12): 2278-2287. Kim KA, Wagle M, Tran K, Zhan X, Dixon MA, Liu S, Gros D, Korver W, Yonkovich S, Tomasevic N, Binnerts M and Abo A. 2008. Mol Biol Cell. 19(6): 2588-2596. Wei Q, Yokota C, Semenov MV, Doble B, Woodgett J and He X. 2007. J Biol Chem. 282(21): 15903-15911. Chassot AA, Gregoire EP, Magliano M, Lavery R and Chaboissier MC. 2008. Sex Dev. 2(4-5): 219-227. Carmon KS, Gong X, Lin Q, Thomas A and Liu Q. 2011. Proc Natl Acad Sci USA. 108(28): 11452-11457. Gong X, Carmon KS, Lin Q, Thomas A, Yi J and Liu Q. 2012. PLoS One. 7(5): e37137. DOI 10.1371/journal.pone.0037137.

Citations are provided as a resource for additional applications that have not been validated by Tonbo Biosciences. Please choose the appropriate format for each application and consult Materials and Methods sections for additional details about the use of any product in these publications.

For Research Use Only.

Not for use in diagnostic or therapeutic procedures. Not for resale. Not for distribution without written consent. Tonbo Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Tonbo Biosciences, Tonbo Biosciences Logo and all other trademarks are the property of Tonbo Biotechnologies Corporation. © 2013 Tonbo Biosciences.