RSPO1/R-spondin-1 Protein, Human (CHO, His)

Cat. No.:	HY-P7114
Synonyms:	rHuR-spondin-1/RSPO1; Roof plate-specific spondin-1
Species:	Human
Source:	CHO
Accession:	Q2MKA7-1 (S21-A263)
Gene ID:	284654
Molecular Weight:	38-43.3 kDa

PROPERTIES

AA Sequence	S R G I K G K R Q R R I S A E G S Q A C A K G C E L C S E V N G C L K C S P K L F I L L E R N D I R Q V G V C L P S C P P G Y F D A R N P D M N K C I K C K I E H C E A C F S H N F C T K C K E G L Y L H K G R C Y P A C P E G S S A A N G T M E C S S P A Q C E M S E W S P W G P C S K K Q Q L C G F R R G S E E R T R R V L H A P V G D H A A C S D T K E T R R C T V R R V P C P E G Q K R R K G G Q G R R E N A N R N L A R K E S K E A G A G S R R R K G Q Q Q Q Q Q Q Q G T V G P L T S A G P A
Biological Activity	1.R-Spondin-1 enhances BMP-2-mediated differentiation of MC3T3-E1 cells. The expected ED_{50} is 1.182 μg/mL.corresponding to a specific activity is 8.46 ×10^2 units/mg. 2.Measured by its ability to induce Topflash reporter activity in HEK293T human embryonic kidney cells. The ED_{50} for this effect is 1-10 ng/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized after extensive dialysis against PBS, pH 7.4.
Endotoxin Level	<0.01 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The R-Spondin (RSpo) family of secreted proteins act as potent activators of the Wnt/ -catenin signaling pathway. R-

spondin-1/RSPO1 activity critically depends on the presence of canonical Wnt ligands and LRP6[1]. Although R-spondin-1/RSPO1 does not directly activate LRP6, R-spondin-1/RSPO1 can interfere with DKK1 function, which is to regulate the turnover of the LRP5 or LRP6 receptor and to amplify Wnt-dependent signaling[2].

REFERENCES

[1]. Binnerts ME, et al. R-Spondin1 regulates Wnt signaling by inhibiting internalization of LRP6. Proc Natl Acad Sci U S A. 2007 Sep 11;104(37):14700-5.

[2]. Zhao J, et al. Tipping the balance: modulating the Wnt pathway for tissue repair. Trends Biotechnol. 2009 Mar;27(3):131-6.

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