SANTA CRUZ BIOTECHNOLOGY, INC.

Ron siRNA (h): sc-36434

BACKGROUND

Receptor protein tyrosine kinases (PTKs) have been classified into different subclasses on the basis of sequence similarity and distinct structural characteristics. The c-Met encoded receptor represents the initial member of one class of receptors characterized by a heterodimeric structure and a cysteine-rich extracellular domain. Ron, also designated macrophage-stimulating protein receptor (MSP receptor), p185-Ron, CD136 antigen or PTK8 represents a second member of this receptor class. The intracellular PTK domains of Ron and Met are highly similar (63% sequence identity) while the extracellular domains are less related (25% sequence identity) and both are rich in cysteine residues. Mature Ron receptor is comprised of a disulfide-linked heterodimer formed from an α chain (Ron α) and a β chain (Ron β). Proteolytic processing results in the separation of the N-terminal Ron α and C-terminal Ron β subunits.

REFERENCES

1. Cooper, C.S., et al. 1986. Amplification and overexpression of the Met gene in spontaneously transformed NIH/3T3 mouse fibroblasts. EMBO J. 5: 2623-2628.
2. Giordano, S., et al. 1988. p145, a protein with associated tyrosine kinase activity in a human gastric carcinoma cell line. Mol. Cell. Biol. 8: 3510-3517.
3. Pawson, T., et al. 1991. Receptor tyrosine kinases: genetic evidence for their role in *Drosophila* and mouse development. Trends Genet. 6: 350-356.

CHROMOSOMAL LOCATION

Genetic locus: MST1R (human) mapping to 3p21.31.

PRODUCT

Ron siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Ron shRNA Plasmid (h): sc-36434-SH and Ron shRNA (h) Lentiviral Particles: sc-36434-V as alternate gene silencing products.

For independent verification of Ron (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-36434A, sc-36434B and sc-36434C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Ron siRNA (h) is recommended for the inhibition of Ron expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

Ron α (C-5): sc-393523 is recommended as a control antibody for monitoring of Ron gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Ron gene expression knockdown using RT-PCR Primer: Ron (h)-PR: sc-36434-PR (20 µl, 385 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Cantaluppi, V., et al. 2008. Macrophage stimulating protein may promote tubular regeneration after acute injury. J. Am. Soc. Nephrol. 19: 1904-1918.
2. Park, J.S., et al. 2013. EGCG inhibits recepteur d'origine nantais expression by suppressing Egr-1 in gastric cancer cells. Int. J. Oncol. 42: 1120-1126.
3. Kim, S.A., et al. 2014. RON (recepteur d'origine nantais) expression and its association with tumor progression in laryngeal squamous cell carcinoma. Auris Nasus Larynx 41: 201-206.
4. Xia, Y., et al. 2015. Chrysin inhibits cell invasion by inhibition of recepteur d'origine nantais via suppressing early growth response-1 and NFκB transcription factor activities in gastric cancer cells. Int. J. Oncol. 46: 1835-1843.
5. Lian, S., et al. 2016. MicroRNA-375 functions as a tumor-suppressor gene in gastric cancer by targeting recepteur d'Origine Nantais. Int. J. Mol. Sci. 17: 1633.
6. Kim, S.A., et al. 2019. Receptor tyrosine kinase, Ron, promotes tumor progression by regulating EMT and the MAPK signaling pathway in human oral squamous cell carcinoma. Int. J. Oncol. 55: 513-526.
7. Kato, A., et al. 2021. A potential signaling axis between Ron kinase receptor and hypoxia-inducible factor-1 α in pancreatic cancer. Mol. Carcinog. 60: 734-745.

RESEARCH USE

For research use only, not for use in diagnostic procedures.