SANTA CRUZ BIOTECHNOLOGY, INC.

MXRA5 siRNA (h): sc-91219

BACKGROUND

Matrix-remodeling-associated protein 5 (MXRA5), also known as adhesion protein with leucine-rich repeats and immunoglobulin domains related to perlecan (Adlican), is a 2,828 amino acid secretory protein. Containing 12 Ig-like C2-type domains and 7 LRR repeats, MXRA5 is a member of the leucine-rich repeat and Ig domain-containing (LRRIG) family of proteins. MXRA5 expression, while decreasing with age from youth until late adulthood, increases from late adulthood through late elderhood. Most notably, NXRA5 has been shown to be overexpressed in centenarians. This expression pattern suggests a role of MXRA5 in the biology of aging and longevity.

REFERENCES

1. Taguchi, A., et al. 1996. Molecular cloning of novel leucine-rich repeat proteins and their expression in the developing mouse nervous system. Brain Res. Mol. Brain Res. 35: 31-40.
2. Perls, T. 2002. Genetic and environmental influences on exceptional longevity and the AGE nomogram. Ann. N.Y. Acad. Sci. 959: 1-13.
3. Perls, T., et al. 2002. The genetics of exceptional human longevity. J. Mol. Neurosci. 19: 233-238.
4. Zou, T.T., et al. 2002. Application of cDNA microarrays to generate a molecular taxonomy capable of distinguishing between colon cancer and normal colon. Oncogene 21: 4855-4862.
5. Perls, T. and Terry, D. 2003. Understanding the determinants of exceptional longevity. Ann. Intern. Med. 139: 445-449.
6. Perls, T. and Terry, D. 2003. Genetics of exceptional longevity. Exp. Gerontol. 38: 725-730.
7. Chondrogianni, N., et al. 2004. Cloning of differentially expressed genes in skin fibroblasts from centenarians. Biogerontology 5: 401-409.
8. Gabrielsen, A., et al. 2007. Gene expression signals involved in ischemic injury, extracellular matrix composition and fibrosis defined by global mRNA profiling of the human left ventricular myocardium. J. Mol. Cell. Cardiol. 42: 870-883.

CHROMOSOMAL LOCATION

Genetic locus: MXRA5 (human) mapping to Xp22.33.

PRODUCT

MXRA5 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 MXRA5 shRNA Plasmid (h): sc-91219-SH and MXRA5 shRNA (h) Lentiviral Particles: sc-91219-V as alternate gene silencing products.

For independent verification of MXRA5 (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-91219A, sc-91219B and sc-91219C.

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

MXRA5 siRNA (h) is recommended for the inhibition of MXRA5 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MXRA5 gene expression knockdown using RT-PCR Primer: MXRA5 (h)-PR: sc-91219-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Poveda, J., et al. 2017. MXRA5 is a TGF-β1-regulated human protein with anti-inflammatory and anti-fibrotic properties. J. Cell. Mol. Med. 21: 154-164.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.