SANTA CRUZ BIOTECHNOLOGY, INC.

AQR siRNA (h): sc-90163

BACKGROUND

AQR (aquarius homolog), also known as intron-binding protein aquarius or IBP160 (intron-binding protein of 160 kDa), is a 1,485 amino acid intron-binding spliceosomal protein that consists of a helicase domain and belongs to the CWF11 family. Encoded by a gene that maps to human chromosome 15q14, AQR localizes to nucleus and speckle-like regions of nucleoplasm, and shares significant similarity with mouse. AQR is highly expressed in kidney and moderately in ovary, heart, brain, placenta, lung, liver and skeletal muscle, with expression greatly induced by retinoic acid *in vitro*. AQR is necessary for linking pre-mRNA splicing and snoRNP (small nucleolar ribonucleoprotein) biogenesis and plays a key role in position-dependent assembly of intron-encoded box C/D small snoRNP, possibly assisting in snoRNA sequence folding. AQR binds to introns of pre-mRNAs in a sequence-independent manner, between snoRNA and intron branchpoints, during final splicing periods.

REFERENCES

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2. Hirose, T., et al. 2006. A spliceosomal intron binding protein, IBP160, links position-dependent assembly of intron-encoded box C/D snoRNP to pre-mRNA splicing. Mol. Cell 23: 673-684.
3. Ideue, T., et al. 2007. Introns play an essential role in splicing-dependent formation of the exon junction complex. Genes Dev. 21: 1993-1998.
4. Kuraoka, I., et al. 2008. Isolation of XAB2 complex involved in pre-mRNA splicing, transcription, and transcription-coupled repair. J. Biol. Chem. 283: 940-950.
5. Brown, J.W., et al. 2008. Intronic noncoding RNAs and splicing. Trends Plant Sci. 13: 335-342.
6. Grillari, J., et al. 2009. Blom7α is a novel heterogeneous nuclear ribonucleoprotein K homology domain protein involved in pre-mRNA splicing that interacts with SNEVPrp19-Pso4. J. Biol. Chem. 284: 29193-29204.
7. Yoshimoto, R., et al. 2009. Isolation and characterization of post-splicing lariat-intron complexes. Nucleic Acids Res. 37: 891-902.

CHROMOSOMAL LOCATION

Genetic locus: AQR (human) mapping to 15q14.

PRODUCT

AQR 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 AQR shRNA Plasmid (h): sc-90163-SH and AQR shRNA (h) Lentiviral Particles: sc-90163-V as alternate gene silencing products.

For independent verification of AQR (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-90163A, sc-90163B and sc-90163C.

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

AQR siRNA (h) is recommended for the inhibition of AQR 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 AQR gene expression knockdown using RT-PCR Primer: AQR (h)-PR: sc-90163-PR (20 µl, 448 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.