SANTA CRUZ BIOTECHNOLOGY, INC.

KMO siRNA (h): sc-88853

BACKGROUND

KMO (kynurenine 3-monooxygenase), also known as kynurenine 3-hydroxylase, is a 486 amino acid multi-pass membrane protein that belongs to the aromatic-ring hydroxylase family and the KMO subfamily. Existing as three alternatively spliced isoforms, KMO catalyzes the hydroxylation of L-kynurenine (L-Kyn) to form 3-hydroxy-L-kynurenine (L-3OHKyn). KMO is required for synthesis of quinolinic acid, a neurotoxic NMDA receptor antagonist and potential endogenous inhibitor of NMDA receptor signaling in axonal targeting, synaptogenesis and apoptosis during brain development. Quinolinic acid may also affect NMDA receptor signaling in pancreatic β cells, osteoblasts, myocardial cells and the gastrointestinal tract. While it is detectable in kidney, KMO is expressed at high levels in placenta and liver. The gene that encodes KMO consists of approximately 63,511 bases and maps to human chromosome 1q43.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: KMO (human) mapping to 1q43.

PRODUCT

KMO 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 KMO shRNA Plasmid (h): sc-88853-SH and KMO shRNA (h) Lentiviral Particles: sc-88853-V as alternate gene silencing products.

For independent verification of KMO (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-88853A, sc-88853B and sc-88853C.

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

KMO siRNA (h) is recommended for the inhibition of KMO 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 KMO gene expression knockdown using RT-PCR Primer: KMO (h)-PR: sc-88853-PR (20 µl). 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.