SANTA CRUZ BIOTECHNOLOGY, INC.

Axl siRNA (m): sc-29770

BACKGROUND

The UFO family of receptor tyrosine kinases is comprised of subfamily members Rse (also designated Tyro3, Sky, Brt, Dtk, Etk2 and Tif), Axl (also designated UFO or ARK) and Mer (also designated Nyk or Eyk). Rse is expressed preferentially in the adult brain with lower expression in other tissues. Axl is found at highest levels in heart and skeletal muscle. Mer has been identified as a tyrosine kinase potentially involved in the development of glioblastomas. It is expressed at highest levels in ovary, prostate, lung and kidney. Gas6, a growth arrest specific gene, and the related anticoagulation factor Protein S, have been identified as ligands for the UFO family of receptors.

REFERENCES

1. Janssen, J.W., et al. 1991. A novel putative tyrosine kinase receptor with oncogenic potential. Oncogene 6: 2113-2120.
2. Jia, R. and Hanafusa, H. 1994. The proto-oncogene of v-Eyk (v-Ryk) is a novel receptor-type protein tyrosine kinase with extracellular Ig/GN-III domains. J. Biol. Chem. 269: 1839-1844.
3. Mark, M.R., et al. 1994. Rse, a novel receptor-type tyrosine kinase with homology to Axl/UFO, is expressed at high levels in the brain. J. Biol. Chem. 269: 10720-10728.
4. Neubauer, A., et al. 1994. Expression of Axl, a transforming receptor tyrosine kinase, in normal and malignant hematopoiesis. Blood 84: 1931-1941.
5. Stitt, T.N., et al. 1995. The anticoagulation factor Protein S and its relative, Gas6, are ligands for the Tyro 3/Axl family of receptor tyrosine kinases. Cell 80: 661-670.

CHROMOSOMAL LOCATION

Genetic locus: Axl (mouse) mapping to 7 A3.

PRODUCT

Axl siRNA (m) 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 Axl shRNA Plasmid (m): sc-29770-SH and Axl shRNA (m) Lentiviral Particles: sc-29770-V as alternate gene silencing products.

For independent verification of Axl (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-29770A, sc-29770B and sc-29770C.

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

Axl siRNA (m) is recommended for the inhibition of Axl expression in mouse 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 Axl gene expression knockdown using RT-PCR Primer: Axl (m)-PR: sc-29770-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. He, L., et al. 2010. Differential expression of Axl in hepatocellular carcinoma and correlation with tumor lymphatic metastasis. Mol. Carcinog. 49: 882-891.
2. Bertin, F.R., et al. 2015. Growth arrest-specific 6 regulates thrombin-induced expression of vascular cell adhesion molecule-1 through forkhead box O1 in endothelial cells. J. Thromb. Haemost. 13: 2260-2272.
3. Zhang, M., et al. 2018. Jujuboside A promotes Aβ clearance and ameliorates cognitive deficiency in Alzheimer's disease through activating Axl/HSP90/PPARγ pathway. Theranostics 8: 4262-4278.
4. Qian, C., et al. 2022. Opening K_{ATP} channels induces inflammatory tolerance and prevents chronic pain. Brain Behav. Immun. 107: 76-86.
5. Zhang, S., et al. 2022. Bilirubin improves Gap junction to alleviate doxorubicin-induced cardiotoxicity by regulating AMPK-Axl-SOCS3-Cx43 axis. Front. Pharmacol. 13: 828890.
6. Li, F., et al. 2024. Dexmedetomidine attenuates sepsis-associated acute lung injury by regulating macrophage efferocytosis through the ROS/ADAM10/AXL pathway. Int. Immunopharmacol. 142: 112832.

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.