SANTA CRUZ BIOTECHNOLOGY, INC.

FAAP24 siRNA (h): sc-97198

BACKGROUND

FAAP24 (fanconi anemia-associated protein of 24 kDa), also known as C19orf40, is a 215 amino acid member of the fanconi anemia (FA) core complex. Members of this complex include FANCA, FANCB, FANCC, FANCE, FANCF, FANCG, FANCL/PHF9, FANCM and FAAP100, and are essential for fanconi anemia-associated DNA damage response. FAAP24 plays an important role in this complex by regulating monoubiquitylation of FANCD2 upon DNA damage. Forming a complex with FANCM, FAAP24 and FANCM function independently of the FA core complex, and are required for chromatin association and activation of DNA damage checkpoints. When repressed, FAAP24 induces chromosomal instability and hypersensitivity to DNA cross-linking agents. Localizing to the nucleus, FAAP24 contains a C-terminal region which is distantly related to the DNA-binding domain 2 present in RuvA.

REFERENCES

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2. Niedernhofer, L.J. 2007. The Fanconi anemia signalosome anchor. Mol. Cell 25: 487-490.
3. Ciccia, A., et al. 2008. Structural and functional relationships of the XPF/MUS81 family of proteins. Annu. Rev. Biochem. 77: 259-287.
4. Kim, J.M., et al. 2008. Cell cycle-dependent chromatin loading of the Fanconi anemia core complex by FANCM/FAAP24. Blood 111: 5215-5222.
5. Collis, S.J., et al. 2008. FANCM and FAAP24 function in ATR-mediated checkpoint signaling independently of the Fanconi anemia core complex. Mol. Cell 32: 313-324.
6. Horejsí, Z., et al. 2009. FANCM-FAAP24 and HCLK2: roles in ATR signalling and the Fanconi anemia pathway. Cell Cycle 8: 1133-1137.
7. Ali, A.M., et al. 2009. Identification and characterization of mutations in FANCL gene: a second case of Fanconi anemia belonging to FA-L complementation group. Hum. Mutat. 30: E761-E770.
8. Ali, A.M., et al. 2009. FANCM-FAAP24 and FANCJ: FA proteins that metabolize DNA. Mutat. Res. 668: 20-26.
9. Thompson, L.H. and Hinz, J.M. 2009. Cellular and molecular consequences of defective Fanconi anemia proteins in replication-coupled DNA repair: mechanistic insights. Mutat. Res. 668: 54-72.

CHROMOSOMAL LOCATION

Genetic locus: FAAP24 (human) mapping to 19q13.11.

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.

PRODUCT

FAAP24 siRNA (h) is a pool of 2 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 FAAP24 shRNA Plasmid (h): sc-97198-SH and FAAP24 shRNA (h) Lentiviral Particles: sc-97198-V as alternate gene silencing products.

For independent verification of FAAP24 (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-97198A and sc-97198B.

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

FAAP24 siRNA (h) is recommended for the inhibition of FAAP24 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 FAAP24 gene expression knockdown using RT-PCR Primer: FAAP24 (h)-PR: sc-97198-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.