

Catalog #	Aliquot Size
A06-911-05	3 x 5 nmol
A06-911-20	3 x 20 nmol
A06-911-50	3 x 50 nmol

ALK2 siRNA Set I

siRNA duplexes targeted against three exon regions

Catalog # A06-911

Lot # Z2013-23

Specificity

ALK2 siRNAs are designed to specifically knock-down human ALK2 expression.

Product Description

ALK2 siRNA is a pool of three individual synthetic siRNA duplexes designed to knock-down human ALK2 mRNA expression. Each siRNA is 19-25 bases in length. The gene accession number is [NM_001105](#).

Gene Aliases

ACVR1, ACTRI, ACVR1A, ACVRLK2, FOP, SKR1, TSRI

Storage and Stability

The lyophilized powder is stable for at least 4 weeks at room temperature. It is recommended that the lyophilized and resuspended siRNAs are stored at or below -20°C. After resuspension, siRNA stock solutions $\geq 2 \mu\text{M}$ can undergo up to 50 freeze-thaw cycles without significant degradation. For long-term storage, it is recommended that the siRNA is stored at -70°C. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

Scientific Background

ALK 2 is a receptor serine/threonine kinase that is member of the ALK family and is upstream of signaling pathway involving the SMAD proteins especially SMAD1/5/8. Knockdown of ALK2, but not TGF β RI (ALK5), abrogates endoglin-mediated decrease in cell motility of prostate cancer cells and constitutively active ALK2 is sufficient to restore a low-motility phenotype in endoglin deficient cells (1). Therefore, endoglin decreases prostate cancer cell motility through activation of the ALK2-Smad1 pathway. ALK2 is the key gene involved in Fibrodysplasia ossificans progressiva (FOP), a rare autosomal dominant congenital disorder characterized by progressive heterotopic bone formation in muscle tissues (2).

References

- Craft, C.S. et al: Endoglin inhibits prostate cancer motility via activation of the ALK2-Smad1 pathway. *Oncogene*. 2007 Nov 8;26(51):7240-50.
- Shore, E. M. et al: A recurrent mutation in the BMP type I receptor ACVR1 causes inherited and sporadic fibrodysplasia ossificans progressiva. *Nature Genet*. 38: 525-527, 2006.

Formulation

The siRNAs are supplied as a lyophilized powder and shipped at room temperature.

Reconstitution Protocol

Briefly centrifuge the tubes (maximum RCF 4,000g) to collect lyophilized siRNA at the bottom of the tube. Resuspend the siRNA in 50 μl of DEPC-treated water (supplied by researcher), which results in a 1x stock solution (10 μM). Gently pipet the solution 3-5 times to mix and avoid the introduction of bubbles. Optional: aliquot 1x stock solutions for storage.

Related Products

Product Name	Catalog Number
ALK2, Active	A06-11G
ALK2 Mutant (R206H), Active	A06-12BG
ALK, Active	A19-11G
ALK Mutant (F1174S), Active	A19-12FG
ALK Mutant (L1196M), Active	A19-12GG
ALK Mutant (S1206R), Active	A19-12IG
ALK1, Active	A09-11G
ALK3 (BMPRI1A), Active	B04-11G

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Catalog Number	A06-911
Specific Lot Number	Z2013-23
Packaging Specifications	2.5 nmol/tube for 3 x 5 nmol
Format	Lyophilized powder
Stability	1yr at -70°C from date of shipment
Storage & Shipping	The lyophilized powder is stable for at least 4 weeks at room temperature. It is recommended that the lyophilized and resuspended siRNAs are stored at or below -20°C. After resuspension, siRNA stock solutions $\geq 2 \mu\text{M}$ can undergo up to 50 freeze-thaw cycles without significant degradation. For long-term storage, it is recommended that the siRNA is stored at -70°C. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

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