

Catalog #	Aliquot Size
A08-911-05	3 x 5 nmol
A08-911-20	3 x 20 nmol
A08-911-50	3 x 50 nmol

## ALK7 siRNA Set I

siRNA duplexes targeted against three exon regions

### Catalog # A08-911

Lot # Z2013-30

#### Specificity

ALK7 siRNAs are designed to specifically knock-down human ALK7 expression.

#### Product Description

ALK7 siRNA is a pool of three individual synthetic siRNA duplexes designed to knock-down human ALK7 mRNA expression. Each siRNA is 19-25 bases in length. The gene accession number is [BC022530](#).

#### Gene Aliases

ACVR1C, ACVRLK7

#### 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 ≥2 µM 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

ALK7 is a type I receptor for the TGFB family of signaling molecules in which type I receptors phosphorylate cytoplasmic SMAD transcription factors, which then translocate to the nucleus and interact directly with DNA or in complex with other transcription factors (1). Alk7 was expressed in all insulin, glucagon, and somatostatin - positive cells of the pancreas (2). GDF3 regulates adipose tissue homeostasis and energy balance under nutrient overload, in part, by signaling through ALK7 and Alk7 showed reduced fat accumulation and partial resistance to diet-induced obesity, similar to Gdf3.

#### References

- Bondestam, J. et.al: cDNA cloning, expression studies and chromosome mapping of human type I serine/threonine kinase receptor ALK7 (ACVR1C). *Cytogenet. Cell Genet.* 95: 157-162, 2001.
- Bertolino, P. et.al: Activin B receptor ALK7 is a negative regulator of pancreatic beta-cell function. *Proc. Nat. Acad. Sci.* 105: 7246-7251, 2008.

#### 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
ALK7 Protein	A08-35G
ALK1, Active	A09-11G
ALK, Active	A19-11G
ALK Mutant (F1174S), Active	A19-12FG
ALK Mutant (L1196M), Active	A19-12GG
ALK Mutant (S1206R), Active	A19-12IG
ALK2, Active	A06-11G
ALK2 Mutant (R206H), Active	A06-12BG
ALK3 (BMPR1A), Active	B04-11G

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Catalog Number	A08-911
Specific Lot Number	Z2013-30
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 ≥2 µM 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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