

Catalog #	Aliquot Size
P312-911-05	3 x 5 nmol
P312-911-20	3 x 20 nmol
P312-911-50	3 x 50 nmol

PAD1 siRNA Set I

siRNA duplexes targeted against three exon regions

Catalog # P312-911

Lot # Z2061-69

Specificity

PAD1 siRNAs are designed to specifically knock-down human PAD1 expression.

Product Description

PAD1 siRNA is a pool of three individual synthetic siRNA duplexes designed to knock-down human PAD1 mRNA expression. Each siRNA is 19-25 bases in length. The gene accession number is [NM_013358](#).

Gene Aliases

HPAD10; PAD11; PDI; PDI1

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 μ 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

PAD1 is a member of the peptidyl arginine deiminase family of enzymes, which catalyze the post-translational deimination of proteins by converting arginine residues into citrullines in the presence of calcium ions. PAD1 is a component of the 26S proteasome, a multiprotein complex that degrades proteins targeted for destruction by the ubiquitin pathway. The overexpression of PAD1 induced a distinctive pattern of multidrug resistance in mammalian cells and moderate resistance to ultraviolet light (1). PAD1 is also responsible for substrate deubiquitination during proteasomal degradation (2).

References

1. Spataro, V. et.al: Resistance to diverse drugs and ultraviolet light conferred by overexpression of a novel human 26 S proteasome subunit. *J. Biol. Chem.* 272: 30470-30475, 1997.
2. Yao, T. et.al: A cryptic protease couples deubiquitination and degradation by the proteasome. *Nature* 419: 403-407, 2002.

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 μ l of DEPC-treated water (supplied by researcher), which results in a 1x stock solution (10 μ M). 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
PAD1 Protein	P312-30G
PAD2 Protein	P312-30BG
PAD3 Protein	P312-30CG
PAD4 Protein	P312-30DG
PAD6 Protein	P312-30FG
PAD Cocktail, Active	P312-37C

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Catalog Number	P312-911
Specific Lot Number	Z2061-69
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 μ 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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