

P312-911D-05	3 x 5 nmol
P312-911D-20	3 x 20 nmol
P312-911D-50	3 x 50 nmol

PAD4 siRNA Set I

siRNA duplexes targeted against three exon regions

Catalog # P312-911D

Lot # Z2061-72

Specificity

PAD4 siRNAs are designed to specifically knock-down human PAD4 expression.

Product Description

PAD4 siRNA is a pool of three individual synthetic siRNA duplexes designed to knock-down human PAD4 mRNA expression. Each siRNA is 19-25 bases in length. The gene accession number is [BC025718](#).

Gene Aliases

PADI4; PAD; PDI4; PDI5

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

PAD4 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 (1). PAD4 is essential for antibacterial innate immunity mediated by neutrophil extracellular traps (NETs) (2). PAD4 play a role in granulocyte and macrophage development leading to inflammation and immune response. PAD4 also mediates the gene expression by regulating arginine methylation and citrullination in histones(3).

References

1. Nakashima, K. et.al: Molecular characterization of peptidylarginine deiminase in HL-60 cells induced by retinoic acid and 1-alpha,25-dihydroxyvitamin D(3). J. Biol. Chem. 274: 27786-27792, 1999.
2. Li, P.et.al: PAD4 is essential for antibacterial innate immunity mediated by neutrophil extracellular traps. J. Exp. Med. 207: 1853-1862, 2010.
3. Wang, Y. et.al: Human PAD4 regulates histone arginine methylation levels via demethyliminium. Science 306: 279-283, 2004.

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	P312-911D
Specific Lot Number	Z2061-72
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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