

Product Data Sheet

Cat#: AD-135-U
Cat#: AD-135-B, Biotin labeled
Cat#: AD-135-F, FITC labeled

Product Description: Phospholamban (Apt-9)

Aptamer Type: DNA

Sequence: 5'-TTGGGGAGGGGCACTGGGCAGTGTAAATTTACGAAAGCGAG-3'; 40-mer

Size 100 nM

Mol. Wt: 12546.21 g/mole

Purity: >95%

Affinity: 20 nM (reported value)

Comments: n/a

Notes: The sarco(endo)plasmic reticulum calcium ATPase (SERCA) 2a is responsible for Calcium uptake by this organelle and is inhibited in a reversible manner by phospholamban, another SR membrane protein. Alleviating the inhibitor protein is a potential therapy for cardiomyopathy and heart failure. Apt-9, was found to specifically bind to the cytoplasmic region of phospholamban in vitro with high affinity (dissociation constant, 20 nM). Apt-9 increased the Ca²⁺-dependent ATPase activity of cardiac SR vesicles but not that of SR vesicles from skeletal muscle in a concentration-dependent manner.

References: Tanaka et al. "In Vitro Selection and Characterization of DNA Aptamers Specific for Phospholamban." The Journal of Pharmacology and Experimental Therapeutics, 329(2009): 57-63.

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India Contact:

Life Technologies (India) Pvt. Ltd.

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com