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(71) Applicant: **SRX CARDIO, LLC** [US/US]; 732 Pittsford-Victor Road, Pittsford, NY 14534 (US).

(72) Inventors: **MUEHLEMANN, Michael M.**; 4172 Choke Cherry Way, Liverpool, NY 13090 (US). **BARTA, Thomas E.**; 1532 Pathway Drive, Carrboro, NC 27510 (US). **MONROE, Kyle D.**; 69 Thornell Road, Pittsford, NY 14534 (US). **BOURNE, Jonathan William**; 18 Larkspur Lane, Fairport, NY 14450 (US). **REECE, Margaret Thompson**; 4977 Highbridge Street, Fayetteville, NY 13066 (US). **NEVALAINEN, Vesa**; 50 Duncan Circle, Weymouth, MA 02189 (US).

(74) Agents: **CARROLL, Peter G.** et al.; Medlen & Carroll, LLP, 1440 Broadway, Suite 510, Oakland, CA 94612 (US).

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(54) Title: PROPROTEIN CONVERTASE SUBTILISIN/KEXIN TYPE 9 ALLOSTERIC BINDING LIGANDS TO MODULATE SERUM LOW DENSITY LIPOPROTEIN

(57) Abstract: This invention is related to the field of hypercholesterolemia. In particular, the invention provides compositions and methods to modulate circulating levels of low density lipoproteins by altering the conformation of the protein PCSK9 using synthetic ligands and/or synthetic ligand derivative sequences of 3-8 amino acids ranging between 350 - 2,000 Da. Altering the conformation of PCSK9 affects the interaction between PCSK9 and an endogenous low density lipoprotein receptor, and can lead to reduced or increased levels of circulating LDL-cholesterol. High LDL-cholesterol levels are associated with increased risk for heart disease. Low LDL-cholesterol levels may be problematic in other conditions, such as liver dysfunction; thus, there is also utility for ligands which can raise LDL levels.

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