Proprotein convertase subtilisin/kexin type 9 (PCSK9) is a secretory serine protease synthesized primarily by the liver. It mainly promotes the degradation of low-density lipoprotein receptor LDL-R by binding LDL-R, reducing low-density lipoprotein cholesterol (LDL-C) clearance. In addition to regulating LDL-R, PCSK9 inhibitors can also bind Toll-like receptors (TLRs), SCARB1 scavenger receptor B (SR-B/CD36), low-density lipoprotein receptor-related protein 1 (LRP1), apolipoprotein E receptor-2 (ApoER2) and very-low-density lipoprotein receptor (VLDL-R) reducing the lipoprotein concentration and slowing thrombosis. In addition to cardiovascular diseases, PCSK9 is also used in pancreatic cancer, sepsis, and Parkinson's disease. Currently marketed PCSK9 inhibitors include alirocumab, evolocumab, and inclisiran, as well as small molecules, nucleic acid drugs, and vaccines under development [1)].

1)
Liu C, Chen J, Chen H, Zhang T, He D, Luo Q, Chi J, Hong Z, Liao Y, Zhang S, Wu Q, Cen H, Chen G, Li J, Wang L. PCSK9 Inhibition: From Current Advances to Evolving Future. Cells. 2022 Sep 23;11(19):2972. doi: 10.3390/cells11192972. PMID: 36230934; PMCID: PMC9562883.