

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⁾.

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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.

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