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脂蛋白脂酶调控因子研究进展

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摘要 脂蛋白脂酶(Lipoprotein lipase, LPL)是脂质代谢的关键酶, 其正常调控对于机体向组织提供脂质营养至关重要。作为LPL重要的调控因子, 糖基化磷脂酰肌醇锚定高密度脂蛋白结合蛋白1(Glycosylphosphatidylinositol- anchored high density lipoprotein-binding protein 1, GPIHBP1)能与LPL结合起脂解平台的作用, 并作为载体参与LPL向毛细血管内皮细胞的转运。另外, 近年来也鉴定出其他几个LPL活性调控因子, 包括microRNAs、A型重复排序蛋白相关受体(Sortilin-related receptor with A-type repeats, SorLA)和载脂蛋白(Apolipoproteins, apo)。这些LPL调控因子的成功鉴定, 有助于人们深入认识机体脂解代谢和乳糜微粒血症发生的内在机制。文章重点综述了LPL的调控因子GPIHBP1的研究进展, 同时也对其他几个调控因子的研究进展进行了讨论。

关键词： 脂蛋白脂酶 糖基化磷脂酰肌醇锚定高密度脂蛋白结合蛋白1 调控因子

Abstract： Lipoprotein lipase (LPL) is an essential enzyme in the lipid metabolism, and proper regulation of LPL is important for controlling the delivery of lipid nutrients to tissues. Recent studies have identified glycosylphosphatidylinositol-anchored high density lipoprotein-binding protein 1(GPIHBP1) as the important regulation factor of LPL that serves as a binding platform for lipolysis on the vascular lumen and an endothelial cell transporter transporting LPL from the interstitial spaces to the capillary lumen. In addition, several other regulation factors of LPL have also been identified including microRNAs, SorLA (Sortilin-related receptor with A-type repeats), and apolipoproteins that are potentially important for regulating LPL activity. These discoveries provide new directions for understanding basic mechanisms of lipolysis and hyperlipidemia. In this update, we focused on summarizing recent progresses on GPIHBP1, the endothelial cell LPL transporter. We also highlighted the recent progresses on several other regulation factors of LPL that are relevant to the regulation of LPLactivity.

Keywords： LPL, GPIHBP1, regulation factors

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