Hepatic Lipase Deficiency (HLD) is an autosomal recessive disorder that is characterized by elevated triglyceride and cholesterol levels in the blood of affected patients [1, 2]. HLD is caused by mutations in Lipase C (LIPC) which encodes the enzyme hepatic lipase (HL). Hepatic lipase is predominantly involved in the conversion of intermediate-density lipoproteins into low-density lipoproteins and post-prandial triglyceride-rich high-density lipoproteins (HDL) into post-absorptive triglyceride-poor HDL [2]. A recent study has indicated that hepatic lipase concentrations are an independent risk factor for coronary artery disease, *however the literature has historically disagreed on whether hepatic lipase is pro- or anti-atherogenic* [2, 3, 4]*.*  Elucidating the role of hepatic lipase in the development of coronary artery disease will help guide the treatment of patients with hepatic lipase deficiency.

The **goal** of this research is to determine how hepatic lipase activity contributes to the development of coronary artery disease and what other factors may play a role in this association. My **hypothesis** is that hepatic lipase isoforms have an impact on lipid metabolism and may be a confounding variable in studies about its atherogenicity. The **long-term goal** of this project is to better understand the health effects of hepatic lipase deficiency as there are no current treatment guidelines for this condition [1].

**References**

[1] Ng, D. M., Burnett, J. R., Bell, D. A., Hegele, R. A., & Hooper, A. J. (2019). Update on the diagnosis, treatment and management of rare genetic lipid disorders. Pathology, 51(2), 193-201. doi:10.1016/j.pathol.2018.11.005

[2] Kobayashi, J., Miyashita, K., Nakajima, K., & Mabuchi, H. (2015). Hepatic Lipase: A Comprehensive View of its Role on Plasma Lipid and Lipoprotein Metabolism. Journal of Atherosclerosis and Thrombosis, 22(10), 1001-1011. doi:10.5551/jat.31617

[3] Muraba, Y., Koga, T., Shimomura, Y., Ito, Y., Hirao, Y., Kobayashi, J., . . . Murakami, M. (2018). The role of plasma lipoprotein lipase, hepatic lipase and GPIHBP1 in the metabolism of remnant lipoproteins and small dense LDL in patients with coronary artery disease. Clinica Chimica Acta,476, 146-153. doi:10.1016/j.cca.2017.11.021

[4] Yu, X., Lu, J., Li, J., Guan, W., Deng, S., Deng, Q., . . . Zhang, R. (2019). Serum Triglyceride Lipase Concentrations are Independent Risk Factors for Coronary Artery Disease and In-Stent Restenosis. Journal of Atherosclerosis and Thrombosis. doi:10.5551/jat.46821