

Development of GLP-1 releasing agents

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Abstract

Diabetes is currently one of the major health problems worldwide and it is growing at a very fast rate, mainly because of its strong link with obesity. Diabetes is associated with several complications, including micro and macrovascular complications that are mainly caused by poorly controlled blood glucose levels and that ultimately result in reduced life expectancy. There is currently a huge interest in identifying new therapeutic strategies to prevent the development and the progression of the disease and to guarantee a better control of blood glucose levels. Incretins, especially glucagon-like peptide-1 (GLP-1), stimulate insulin secretion in a glucose-dependent manner. The incretin effect is thought to account for at least 50% of postprandial insulin secretion in healthy human subjects, but it is markedly reduced in patients with Type 2 diabetes due, at least in part, to a deficiency in meal-induced GLP-1 release. Pharmacological GLP-1 analogues have been approved for the treatment of Type 2 diabetes. Based on our recent results, in this study, we investigated the hypothesis that the phospholipid lysophosphatidylinositol (LPI) can regulate blood glucose levels through stimulation of GLP-1 release. Our overall goal is to determine whether LPI and/or LPI analogues can act as blood glucose lowering agents and whether strategies aimed at potentiating the release of endogenous GLP-1 through this novel LPI-dependent mechanism can be beneficial in blood glucose management. This strategy would represent an advantage compared to current available therapies since it would aim at enhancing the release of endogenous GLP-1 rather than relying on the use of mimics.



Biography:

Marco Falasca has received his PhD from the Istituto Mario Negri, Italy in 1994 and completed his Postdoctoral studies at the Department of Pharmacology, New York University. He was Group Leader at Mario Negri, Senior Lecturer at University College London and Professor at Queen Mary University of London. In 2014, he was recruited by Curtin University, Perth, Australia, to hold a Chair in Metabolism. His work is mostly focused on identification of novel therapeutic strategies for pancreatic cancer and diabetes. He has published more than 125 papers in reputed journals and has been serving as an Editorial Board Member of repute.

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