

Oral Insulin: The Rationale for This Approach and Current Developments

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Abstract

Insulin remains the most effective and durable hypoglycemic agent for the treatment of diabetes. The addition of an effective oral insulin dosage form to the antidiabetes armamentarium may have significant benefits in terms of fostering compliance and adherence among patients, as well as physiologic advantages due to the fact that such a dosage form replicates the natural route of insulin secretion and absorption through the portal vein and targets the liver directly. Several companies have developed technological platforms that protect polypeptides and proteins from enzymatic hydrolysis, enable their transport across the epithelial lining, and promote their absorption from the gastrointestinal tract. A review of the potential physiological rationale and advantages, as well as of current pertinent technologies used specifically with insulin, is herewith provided.

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Abbreviations: (GRAS) Generally Recognized as Safe, (HDV) hepatic-directed vesicle, (HGP) hepatic glucose production

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