
9 Peptide and Protein Drug Design

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9.1 INTRODUCTION

9.1.1 A HISTORICAL PERSPECTIVE

Peptides and proteins have been used for decades as pharmaceuticals to treat life-threatening diseases, and 95 years ago insulin was among the first plasma-derived proteins used to effectively treat a fatal disease. In 1920, Frederick Banting and Charles Best isolated and purified insulin while working in the laboratory of Professor John Macleod at University of Toronto, and saved the life of 14-year-old Leonard Thomson, a type I diabetic, by injecting him with insulin. Other proteins like factor VIII (hemophilia) and XI, INF- β 1 (multiple sclerosis), anti-TNF α (inflammation), and