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Introduction to Special Issue on Advances in Peptide Therapeutics

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I am delighted to welcome you to this special issue of the *International Journal of Peptide Research and Therapeutics*. Since the introduction of insulin 100 years ago and the invention of the solid phase peptide synthesis (SPPS) in 1963, therapeutic peptides have been applied to a wide range of diseases, including diabetes, cancer, bacterial/viral infections and pain. In early 2021, 3 peptide drugs (out of 26 drugs) were approved by the U.S. Food Drug Administration (FDA), including Empaveli (pegcetacoplan), Zegalogue (dasiglucagon) and Lypkynis (voclosporin). At the end of 2019, a new coronavirus, named COVID-19, emerged that caused unusual viral pneumonia all over the world. The continuing outbreak of COVID-19 remains an extraordinary threat to global public health and is creating additional pressure for drug development.

Given the advanced development of chemical biology approaches, many novel peptides have expanded into broader applications in the peptide therapeutic field. To highlight selected examples new advances in peptide drug development, this Special Issue is focused on the topic of "Advances in peptide therapeutics" which includes (a) a broad range of applications, such as anticancer, antimicrobial, peptide-based vaccine and pain relief, and (b) novel synthetic strategies such as flow-based SPPS, biosynthesis, non-ribosomal peptide synthesis and peptide arrays. In consultation with, and the support of, the journal's Editors-in-Chiefs, Professors John Wade and Fernando Alberico, this special issue is devoted to highlighting the international excellence of peptide research in therapeutics by a selected cohort of current elite young peptide researchers. We believe that the novel peptide synthetic approaches and applications exemplify the multidisciplinary nature of peptide research and the advancement of therapeutics. It has the objective of stimulating new avenues of thinking, approaches, and collaboration in tackling current and forthcoming global health threats.

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