Special Issue

Chemically Enhanced Peptide and Protein Therapeutics

Message from the Guest Editors

The approval of peptide and protein therapeutics by medicinal regulatory agencies is on the rise. Biotherapeutics have exquisite selectivity and have proven capable of engaging targets considered undruggable with small molecules. However, natural peptides and proteins may present limited circulation half-lives or limited cell-killing efficiency. Chemistry provides many opportunities to address these and other challenges, thereby increasing the efficacy of biotherapeutics. Some examples of "chemical enhancement" include peptide cyclization to increase protease stability, the insertion of noncanonical amino acids with functional groups that increase target affinity, anchoring polymer chains to reduce glomerular filtration, and the conjugation of cytotoxic molecules to enhance therapeutic efficacy. In this Special Issue, we welcome research articles reporting recent advances in this rapidly growing field, including chemically modified peptides and proteins as stand-alone therapeutics or targeting moieties.

- noncanonical amino acids
- peptide therapeutics
- targeting peptides
- peptidomimetics
- protein therapeutics
- antibody-drug conjugates

Guest Editors

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