**Exploring Peptide Drug Discovery and the Versatile Applications of Peptides**

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Peptides, composed of amino acids linked by peptide bonds, have garnered significant attention in recent years owing to their diverse applications in drug discovery and various fields of biotechnology. This presentation delves into the multifaceted world of peptides, shedding light on their significance, synthesis methods, and remarkable versatility. Beginning with an overview of peptide drug discovery, we navigate through the rationale behind utilizing peptides as therapeutic agents. Their unique properties, including high specificity, low toxicity, and potential for customization, make them promising candidates for treating a myriad of diseases. We explore the strategies employed in designing peptide-based drugs, such as mimicking natural peptide structures or utilizing computational techniques for rational drug design. This presentation aims to provide a comprehensive exploration of peptide drug discovery and the versatile applications of peptides. By unraveling the potential of peptides as therapeutic agents and molecular tools, we strive to inspire further innovation and interdisciplinary collaboration in harnessing the power of peptides for addressing healthcare challenges and advancing biotechnological frontiers.