IMS-P12 Amphipathic Double-Stapled Helices as Antimicrobial Peptides

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In this study we designed and synthesized several 14-residue-peptides that were enforced to form an amphipathic helix using Verdine's 'all-hydrocarbon stapling' system and evaluated their antimicrobial and hemolytic activities. Some peptide analogs displayed a strong broad spectrum antimicrobial activity along with a low hemolytic activity. Furthermore, by virtue of the double staples, these peptides also exhibited highly enhanced stability against proteolytic degradation. The preliminary data obtained in this work would serve as a good starting point for further developing a new class of stable, selective, and potent antimicrobial peptides that can used as drugs.