Title	Advances in the development of peptidomimetics as potential antimicrobials: A Comparison of Tetrameric and Octameric Peptoids
Keywords (up to 5)	Peptoid, Peptidomimetics, Antimicrobial drugs, Antibiotics, multiresistant
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Abstract	Antibiotics are among the most frequently prescribed medications in modern medicine. Misuse and overuse of these drugs have contributed to a phenomenon known as antibiotic resistance. Antibiotic resistance is the ability of a microorganism to withstand the effects of an antibiotic. While there are some new antibiotics in development, none of them are expected to be effective against the most dangerous forms of antibiotic-resistant bacteria. Novel antimicrobial drugs could potentially be more effective and additionally may decrease the toxicity. Cell-penetrating peptoids (CPPos) are potent mimics of the corresponding cell penetrating peptides (CPPs) with improved stability and pharmacokinetic properties[1]. Highly diverse compound libraries are needed for high-throughput screenings in biological systems and the synthesis of diverse oligomeric libraries that display a variety of backbone scaffolds and sidechain appendages are a very promising source of novel CPPos, which can be used to target different cellular organelles and multiresistant bacteria. The aim of this project is to identify potential antimicrobial peptoids against multi-drug resistant bacteria. A peptoid library was synthesized and evaluated on different bacteria and mammalian cells. The library consisting of tetrameric and octameric peptoids [oligo(*N*-alkylglycines)] was established on Rink amide resin in a split and mix approach with hydrophilic and hydrophobic peptoid side chains[2]. All CPPos of the presented library were labeled with rhodamine B to allow for the monitoring of cellular uptake by fluorescent confocal microscopy.
References	**Kölmel**, D. K., Fürniss, D., Susanto, S., Lauer, A., Grabher, C., Bräse, S., Schepers, U. (2012) Cell Penetrating Peptoids (CPPos): Synthesis of a Small Combinatorial Library by Using IRORI MiniKans. Pharmaceuticals, 5, 12, 1265–1281 **Zuckermann**, R. N., Kerr, J. M., Kent, S. B. H., Moos, W. H. (1992) Efficient Method for the Preparation of Peptoids [oligo(N-Substituted Glycines)] by Submonomer Solid-Phase Synthesis. J Am Chem Soc, 114, 26, 10646–10647