

Combinatorial biosynthesis

During lead optimization, medicinal chemists explore chemical structures related to the lead compound in order to optimize target specificity, pharmacokinetics and toxicological properties, for instance.

Combinatorial biosynthesis promises similar outcomes for natural products poorly accessible by synthesis while also providing the enzyme clusters for sustainable production via microbial fermentation. We aim to establish standardized and efficient protocols for combinatorial biosynthesis of nonribosomal peptides based on 'subdomain swapping'.

