

The white spot of biotechnology – medium to long chained peptides

Christian Schwarz

NUMAFERM GmbH, Germany
christian.schwarz@numaferm.com

Peptides are a remarkable class of molecules with distinct advantages. In the past they have demonstrated their potential for many applications. When it comes to the identification of new lead candidates they are typically derived from natural precursors (i.e. Insulin, GLP-1, Calcitonin, Teriparatide). Alternatively, they are identified by screening of libraries (i.e. Phage Display Libraries). Screening libraries are used successfully for various applications, including the identification of antimicrobial, antiviral, material-specific, cell targeting, molecule binding peptides or antagonists and inhibitors. Available libraries cover peptides of ≤ 20 mer in length and lead candidates can be characterized after being produced by chemical synthesis. However, premade screening libraries targeting medium to long chained peptides ($\geq 20 - 100$ mer) are not commercially available nowadays. Does this class of molecules have no interesting properties? Or is the reason that such peptides cannot reliably be produced neither by chemical synthesis nor by recombinant approaches?

For us peptides of 20-100mer represent the white spot in biotechnology. They are ranked between small peptides and small proteins (i.e. cytokines, nanobodies, growth factors) and we believe that they represent highly attractive candidates for innovative drug development programs. We have established screening libraries for 24 - 48mer peptides enabling the identification of new lead candidates with increased affinities, stabilities and specificities. At this point, you may ask yourself: Well, that's great but what about the production? This is NUMAFERM's initial expertise: We have developed a unique bioprocess, which is a reliable approach to manufacture peptides independently of their length. We would like to introduce you to our screening libraries and bioprocess – Let's discuss strategies to repaint the white spot of biotechnology.