Comparative analysis of HER2 specific oligopeptides: investigating receptor-peptide interactions and structures

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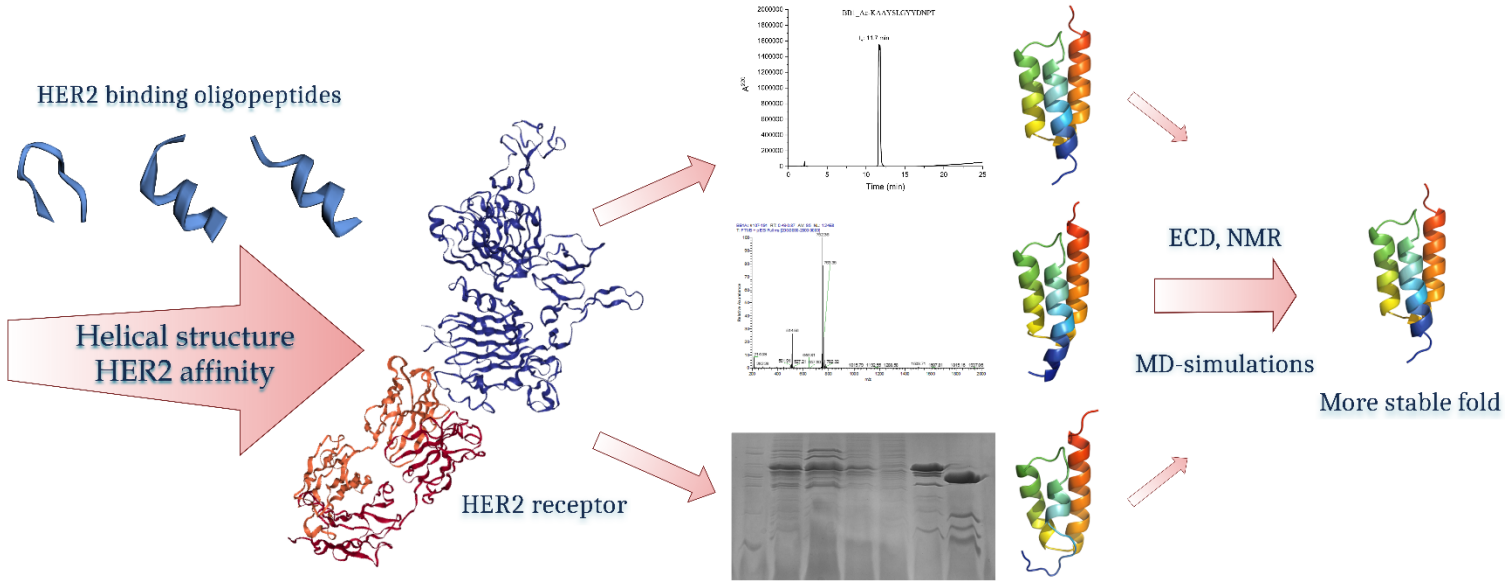

Synthesis / method / protocol: Synthesis of HER2-binding oligopeptides and HER2 receptor (solid phase peptide synthesis, heterologous protein expression), study of protein-peptide interaction (ELISA, SPR) and determination of the structure of the complex (NMR, X-ray diffraction).

Scientific Goal: Our goal was to study the protein-peptide interaction and the structure of the complex in order to identify HER2 specific oligopeptides that can be used in HER2 diagnostics and for targeted drug delivery as well.

Result: HER2-binding oligopeptides were synthesized, modified Affibody molecules were produced and characterized (chemically and for their secondary structure), showing promising HER2-binding in molecular dynamics simulation studies.