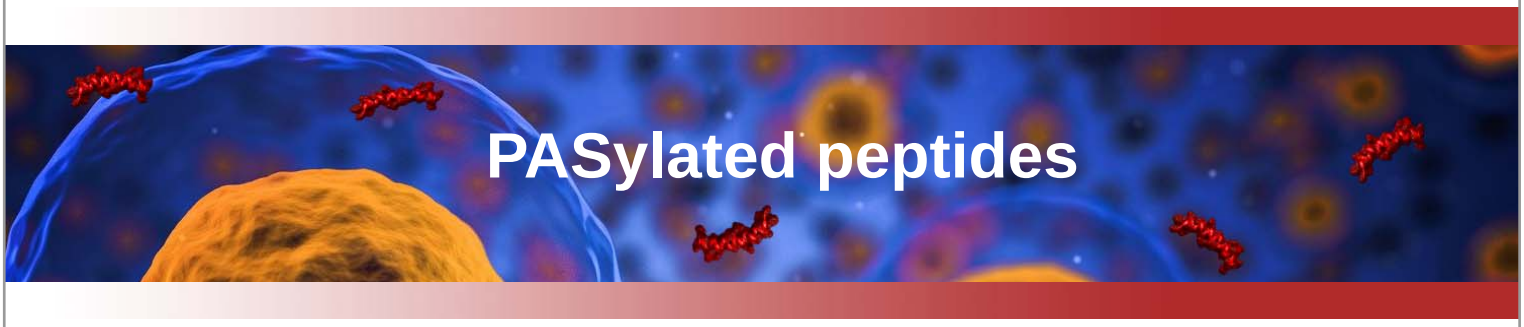
XL-protein
Superior Biopharmaceuticals



PASylated peptides

Therapeutic peptides isolated from natural resources or chemical libraries or rationally designed become increasingly important. Several approved peptide drugs such as GLP-1 analogs, insulin or human parathyroid hormone (PTH) have reached blockbuster sales. Others, like thymosin beta 4, the C-type natriuretic peptide (CNP) or relaxin, are currently undergoing clinical testing. However, with generally fast clearance, degradation by serum exopeptidases and often complex and expensive synthesis, this drug class faces challenges. PASylation®, the genetic fusion or chemical conjugation with a conformationally disordered polypeptide of Pro, Ala, and/or Ser offers an elegant solution to prolong the plasma half-life of peptides and enable efficient homogenous peptide production, leading to enhanced therapeutic action and reduced injection frequencies.

Tunable plasma half-life

- Expanded hydrodynamic volume leading to extended circulation time
- Shielding against plasma proteases
- Reduced injection frequency

Biodegradable PEG alternative

- PAS overcomes PEG hypersensitivity
- No organ accummulation during chronic treatment

Efficient recombinant production

- Genetic fusion: no degradation in the cyto-plasm, homogenous product & reduced costs
- Design of long-acting bispecific peptides
- High-yield secretory production of mature peptides (multiple g/L) demonstrated using an industry-standard expression system

Chemical conjugation

- Various formats of activated PAS polypeptides
- Homogenous product

Related publications and press releases:

San Diego, USA, and Freising, Germany, October 15, 2020: XL-protein and Antlia Bioscience announce collaboration to develop long-acting peptide therapy of chronic heart failure using PASylation® technology.

Binder U., Skerra A. (2020) PASylated Thymosin α1: a long-acting immunostimulatory peptide for applications in oncology and virology. Int. J. Mol. Sci. 22, E124.

San Diego, USA, and Freising, Germany, December 18, 2018: Ajinomoto and XL-protein forge strategic alliance to develop PASylated therapeutics applying the Corynex® platform.

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