TECHNOLOGY OFFER

AUXILIARY-ASSISTED GLYCOPEPTIDE SYNTHESIS

BACKGROUND
For many eukaryotic proteins, processing by post-translational modifications such as glycosylation is a critical step for correct folding and achievement of biological activity. These modifications that occur naturally within eukaryotic cells have to be replicated when preparing peptides and proteins that are chemically synthesized or recombinantly-produced in prokaryotic cells.

TECHNOLOGY
This technology enables production of glycosylated peptides using a new method relying on a photocleavable auxiliary comprising a PEG attachment and a thiol group for native chemical ligation (NCL). This new auxiliary molecule combines easy attachment of a polymer (such as PEG) to a peptide for direct enzymatic modification with the ability to selectively link these modified peptide segments to form larger, complex modified polypeptides and with very mild, traceless removal of the auxiliary.

BENEFITS
- Fast and efficient chemoenzymatic synthesis of complex modified peptides
- Site-specific glycosylation of peptides/proteins of desired length
- Auxiliary molecule enables easy attachment of polymer to peptide for direct enzymatic modification
- Multifunctional auxiliary allows combination of effective modification with chemoselective coupling of peptides
- Traceless removal of the auxiliary by UV irradiation

FURTHER READING

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KEYWORDS:
Photocleavable auxiliary, polymer-conjugated peptide, enzymatic modification, glycosylation

APPLICATION:
Production of site-specific glycosylated peptides for therapy, prophylaxis and diagnostic purposes (including peptide vaccines, antibodies, hormones etc.).

DEVELOPMENT STATUS:
The method has been tested and used extensively on a laboratory scale, and using a variety of different substrates.

IPR:
A PCT application has been filed (PCT/EP2016/053621)