

# Aspen API's Green answer to peptide synthesis

**Our Green Continuous Liquid Phase Peptide Synthesis (GC-LPPS) combines the advantages of the classical solution-phase synthesis with the solid-phase approach.**



## Our green answer to peptide synthesis

We have developed a patented method for green and large-scale manufacturing of peptides in a solution called Green Continuous Liquid Phase Peptide Synthesis (GC-LPPS). GC-LPPS combines the advantages of the classical solution-phase synthesis with the solid-phase approach. It is characterized by the fact that intermediates are not isolated. This enables a highly efficient synthesis method that is easy to scale up and yield products of reproducible high purity. Moreover, our GC-LPPS method uses green ethyl acetate as solvent, and only very low amounts of solvent are used with respect to solid-phase synthesis. International authorities approved our method. For many years, we produce on commercial scale for instance Leuprolide acetate with this method.

## Focus on sustainability

Our focus on sustainability does not stop by having developed the GC-LPPS method. We are striving for optimization and are working on this in our labs. We also focus on waste water treatment, recovery of solvents, energy reduction, and several other examples in which we try to reduce our

manufacturing footprint in the manufacturing of peptides. Besides the further optimization of the GC-LPPS method, we constantly put effort into minimizing the use of chemicals of very high concern in our other processes, e.g. the solvent DMF. We want to be pro-active and we want to be prepared for the future. By buying our API, our customers will receive a service level that completely unburdens them. From security to supply to helping pharmaceutical companies in achieving their sustainability goals.

## **Manufacturing facilities**

At our site in Aspen Oss, the Netherlands, we have established approximately 50 years of experience and a solid reputation of producing cGMP peptides. Next to our proven capability in producing GC-LPPS peptides on commercial scale, we have extensive expertise and experience in both solution and solid-phase synthesis. Our cGMP production facilities are able to produce peptides from gram, to kilo, to tons to support clinical and commercial demands. All our facilities have been successfully inspected and approved by international health authorities, including the US FDA, EDQM, the Dutch Health authorities and PMDA, as well as by our customers.

## **Our C(D)MO offering in peptides**

Our Aspen API team is passionate about molecules and we offer the power of expertise, innovation, compliance, registration and partnership to your project. With a heritage of nearly 100 years, we promise what we do and do what we promise. Whether your project is for a New Chemical Entity (NCE), or a process for (re-)designing your (intermediate) API into a green API, we will be your partner from the development phase to the commercial implementation. You will be working with a high-quality partner who offers skills and well-equipped pilot laboratories, pilot plants and cGMP facilities to enable development, efficient technology transfer and scale up of your API.