

SOLUTION OFFERING



Oligonucleotides & Peptides

From custom synthesis to
commercial-scale manufacturing.

 **CASYM**CHEM



Asymchem offers a superior mix of oligonucleotide and peptide development and manufacturing solutions today while continually driving new innovations to give you a greater advantage tomorrow.

An Expert Team and Advanced Technology

Our expert team of 120 process chemists and 50 analytical chemists deliver process chemistry experience, formulation, analytical expertise and regulatory insight to meet your oligonucleotide and peptide needs.



Oligonucleotide Support

Our advanced and flexible oligonucleotide platform features the latest production equipment for both highly potent and standard oligonucleotides to deliver not just quality, but flexibility to meet your specific project needs.

Scale	Synthesis	Purification & Isolation
R&D lab scale	Multiple OP 100 Multiple OS 50	ÄKTA Avant 150, Biolab 100, TFF system, lab scale freeze-dryer
Pilot scale	OP 400 (4~ 60 mmol.) OS 1000 (10~100 mmol.) OP 2000 (10~120 mmol.)	ÄKTA process, ÄKTA process 10 mm, DAC 300/450 prep-HPLC APPS TFF with 10 m ² cassette, 5/10 m ² freeze-dryer
Commercial scale	Oligoprocess (Up to 1.6 mol.) OS Kilo (200~800 mmol.)	ÄKTA process 1 inch, Prep-HPLC DAC 600/800 APPS TFF with 10/30 m ² cassette, 10/20 m ² freeze-dryer



Peptide Expertise

We can support a range of standard and highly potent peptide development requirements. Our peptide platform features a variety of flexible technologies, allowing us to provide peptide development and manufacturing, from pre-clinical to validation for NDA filing.

Our Technology

- Highly potent manufacturing
- Solid Phase Peptide Synthesis 500L reactor
- Liquid phase preparation
- RP-HPLC-DAC600 equipment for chromatographic separation
- Hybrid technologies, including linear, cyclic disulfides, linear with lipidation
- Membrane concentration/purification
- Lyophilization and spray drying
- Flow chemistry and biotransformation platform for complex key materials production

We can support developing a range of oligonucleotides and peptides, including:

Oligonucleotides

- Modified or non-modified antisense oligonucleotides (ASOs)
- Highly potent oligonucleotides
- GalNAc and lipid conjugation
- siRNA
- Morpholino oligonucleotides (PMOs)
- Locked oligonucleotides (LNAs)
- Peptides-oligonucleotide conjugates
- Lipid Nanoparticles (LNPs)
- Aseptic Fill/Finish

Peptides

- Highly potent peptides
- Traditional peptides
- Pseudopeptides
- Peptide+linker
- Peptide-drug conjugates, including radionuclide drug conjugates and modification to natural peptides
- Polymer-drug conjugates
- And other highly active peptide molecules

Full Service Support

- Analytical support, including release testing, peptide/oligo sequence and bioburden analysis, peptide characterization and stability study service
- Well-equipped facilities that meet the most stringent international quality standards
- Integrated service scope: peptide, drug linker, oligonucleotides and conjugates
- Reliable and qualified supply chain management system including self-made synthetic capability of key materials and intermediates
- GMP and EHS compliance support
- Project management system and dedicated project team

Case study

Accelerating the production timeline for 20-mer antisense oligo

We were charged with production of a 20-mer antisense oligo containing all phosphorothioate linkages and a mixture of DNA and modified RNA monomers with magnesium salts for IND filing and phase I studies, all in just 8 weeks. We accelerated our processes to develop and validate analytical methods for magnesium chelates, and contributed our CMC expertise to assist in preparation of the client's IND dossier for both the FDA and NMPA, all well within the deadline.



Working With You

We have dedicated support teams to work with you on your project. They collaborate on your behalf with our process chemistry, analytical, formulation and regulatory teams to solve your challenges and meet your unique requirements.

Our global vendor network and back-integration capabilities mean we can reduce raw material lead times significantly. Working with Asymchem, we can take your oligo therapeutics from bench to production in 3-6 months and from bench to IND in 6-10 months.

As your needs increase, our range of equipment from 20L up to 500L, housed in 3,000m² of GMP plant space can scale with you. We continually invest and optimize our facilities ensuring we can meet your needs well into the future.

Sustainability Commitment

We're always looking for ways to enhance the efficiency of solid phase synthesis and purification, as well as to minimize process mass intensity (PMI). By redesigning equipment to reduce headspace, searching for alternative solvents, reagents, and acids we are able to provide more sustainable methods that contribute to cost efficiencies and value.

Committed to Ensuring Quality and Compliance

Asymchem has a strong track record of complying with strict global safety and quality regulations. We have state of the art facilities that operate in compliance with internationally recognized regulation.

Our Quality System implemented across all sites has proven itself in hundreds of successful audits by both clients and international regulatory agencies. Our inhouse experts are capable of assisting you in drafting regulatory filings from IND to NDA streamlining your compliance journey.



KNOW. HOW.

Let Us Deliver For You

At Asymchem, we have been providing reliable R&D and production services of high-quality ingredients to the world's top pharmaceutical companies since 1999.

To see what our know how can do for you and learn more, contact us at innovation@asymchem.com