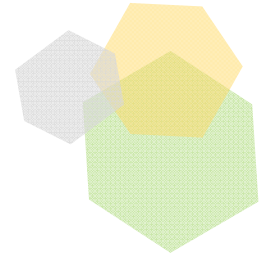




AMERICAN PEPTIDE COMPANY

Total Peptide Management™



APC Overview



American Peptide Company, Inc. :
your strategic partner for
peptide manufacturing and services

2010 – v3.04

APC Corporate Facts and History

Founded: December 1987

Locations: **Sunnyvale** – HQ, R&D, technical center, custom & catalog peptides, non GMP operations

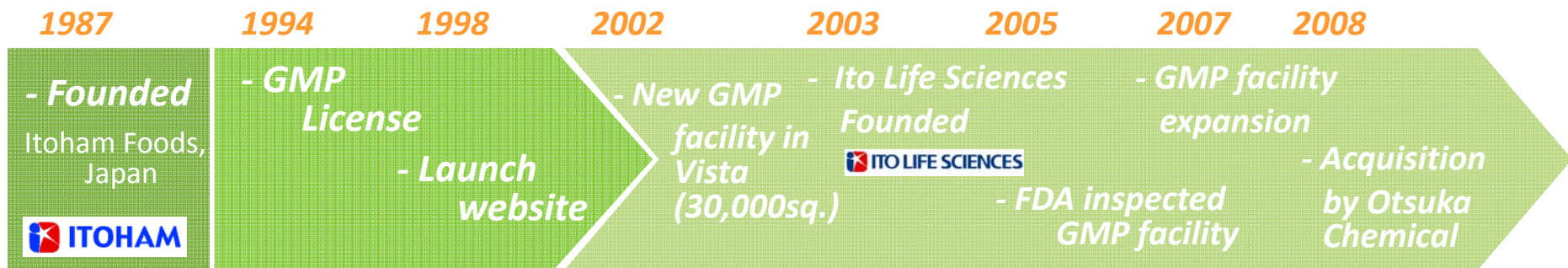
Vista – cGMP manufacturing, large scale projects, APIs, generics

Structure: privately-held

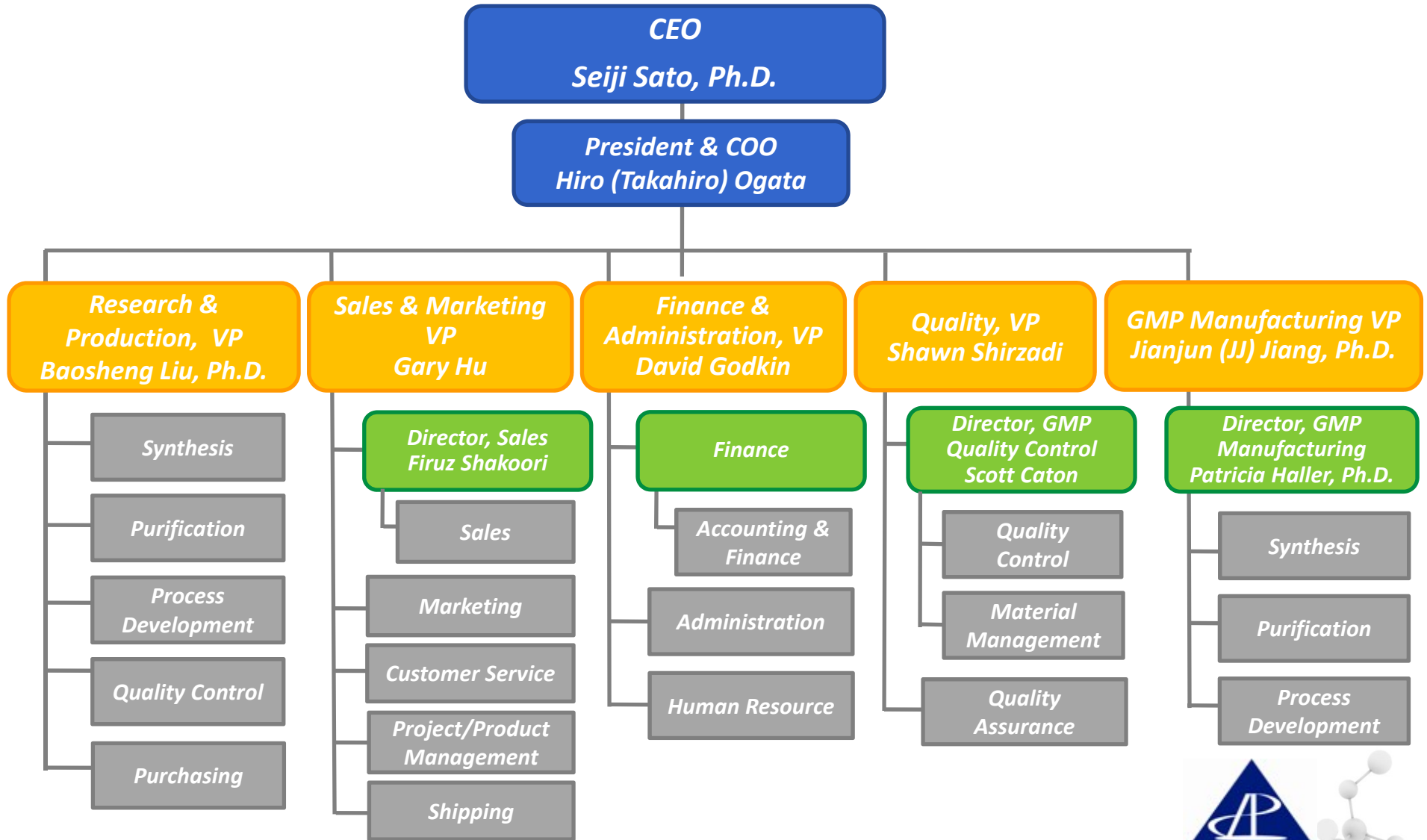
Employees: 80 + growing

Parent Company ILS, Inc.

and Owner: Otsuka Chemical Co, Ltd., Japan



APC Organization



APC Company Overview

We offer a comprehensive selection of pre-manufactured catalog peptides in convenient aliquots, a spectrum of custom synthesis services from array screens to mg to kg of research-grade peptide, and full-scale cGMP manufacturing of pharmaceutical-grade peptides. APC is dedicated to delivering high-quality peptides to pharmaceutical and biotech companies.



APC Facilities



Headquarters

777 East Evelyn Ave.
Sunnyvale, CA 94086 USA
Tel: 408-733-7604 or 1-800-926-8272
Fax: 408-733-7603 or 1-888-670-0070



cGMP Manufacturing Facility

1271 Avenida Chelsea
Vista, CA 92081 USA
Tel: 760-597-8820
Fax: 760-597-8816

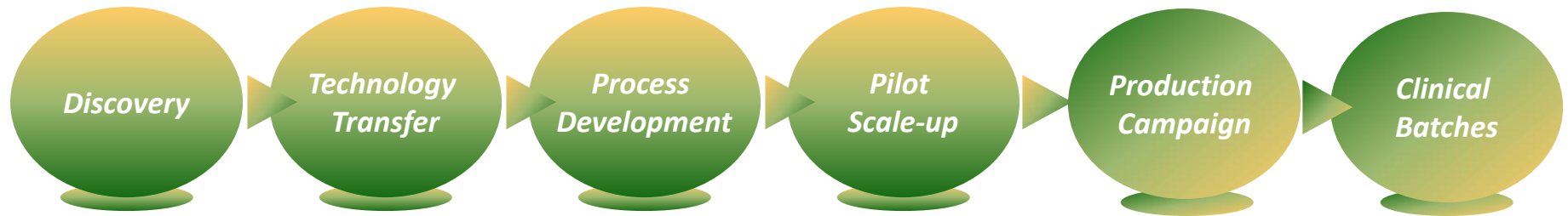


Our Mission

To be the industry leader in peptide process development by providing high quality compounds and services coupled with knowledgeable customer support from early stage research to downstream commercial grade quantities.



Our Capabilities

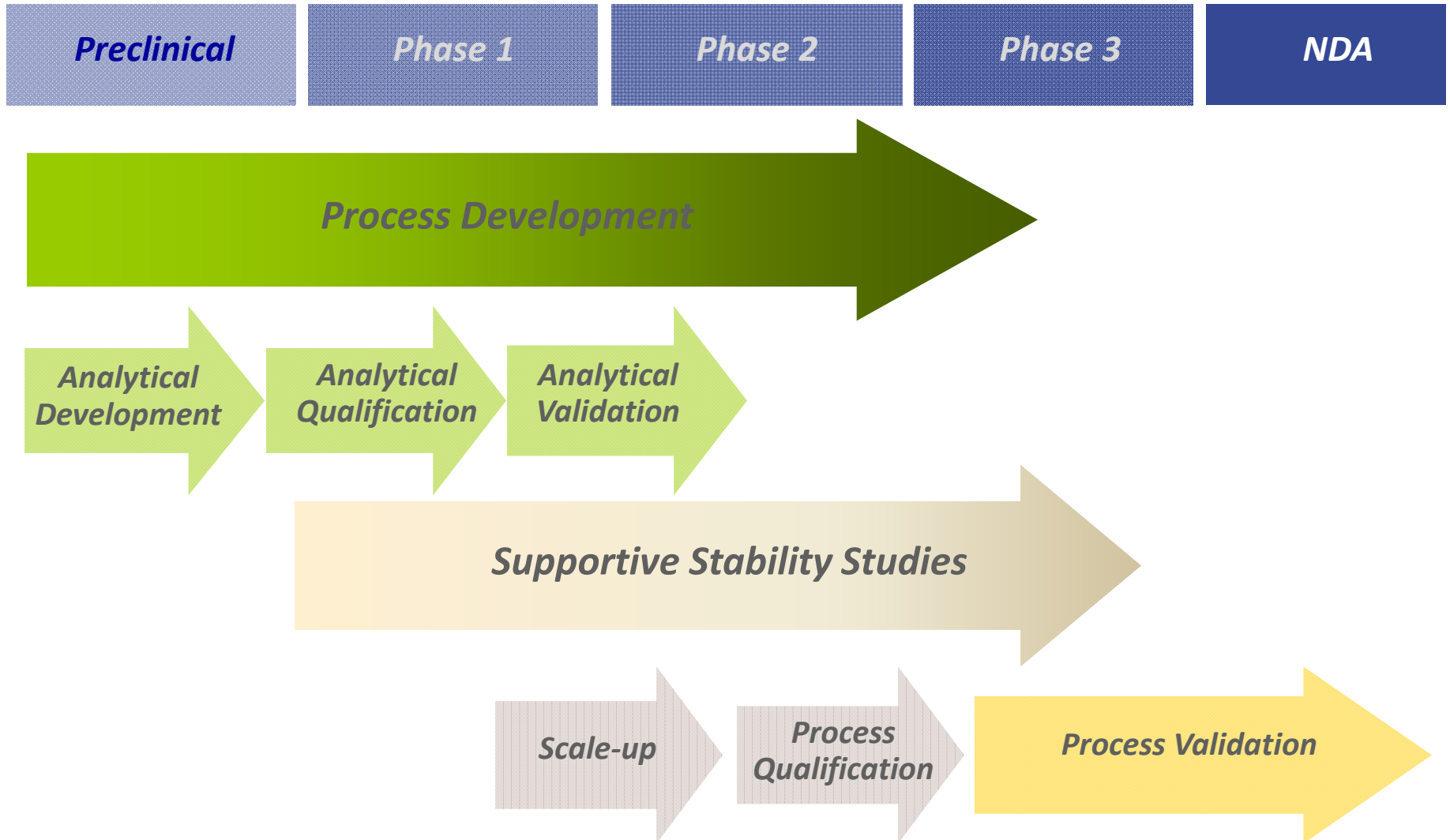


Research & Process Development

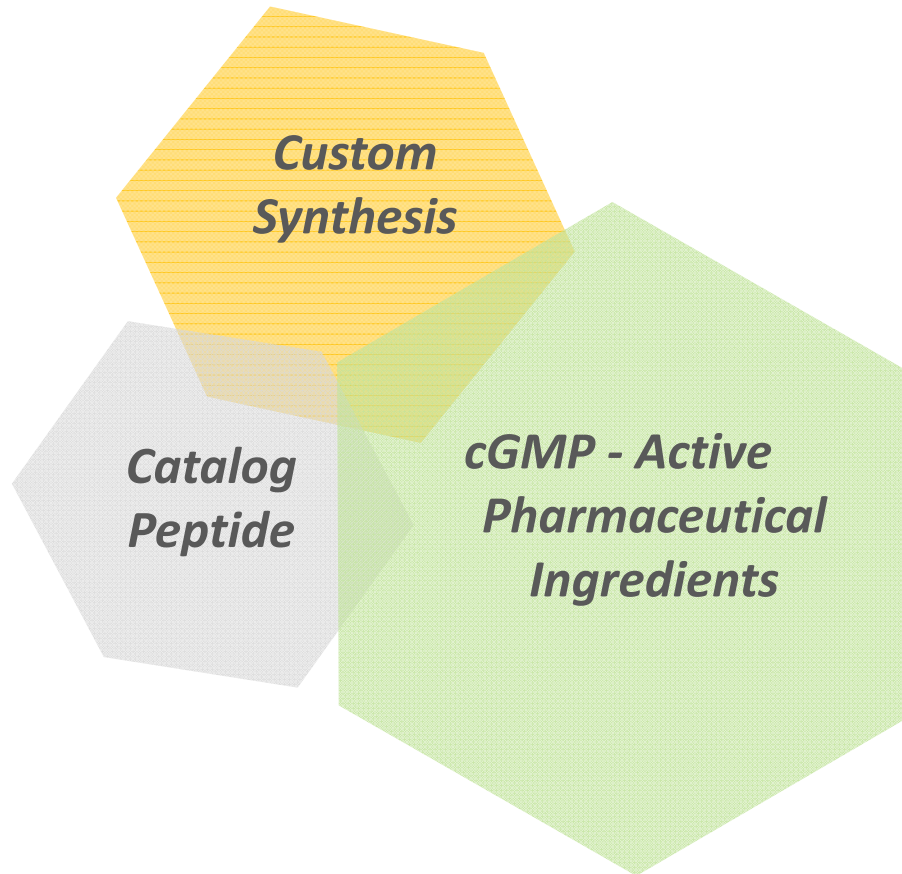
GMP Manufacturing



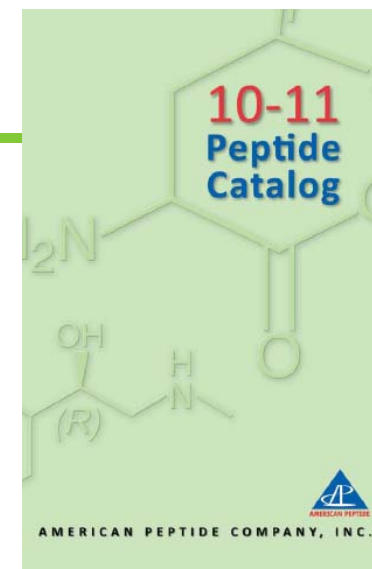
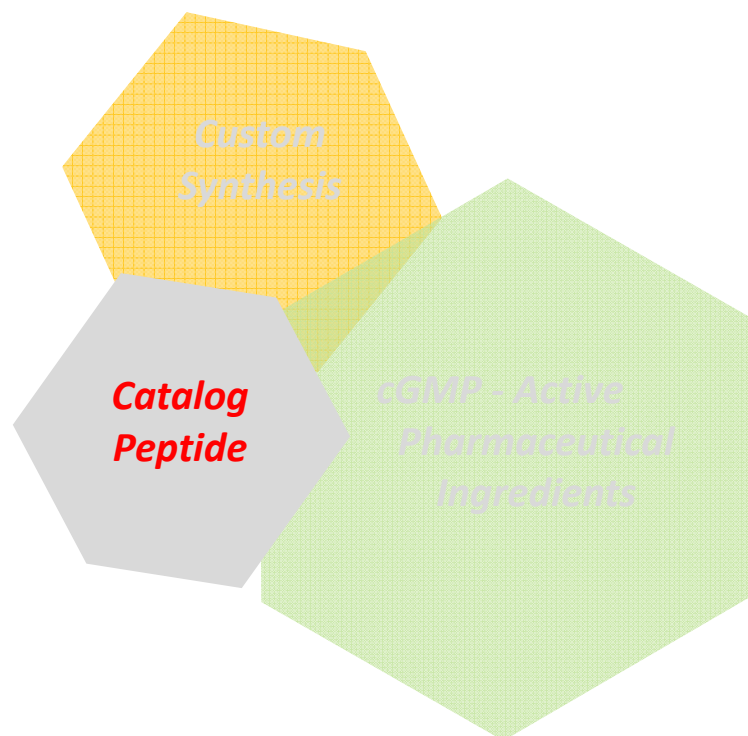
Manage & Support



Products and Services



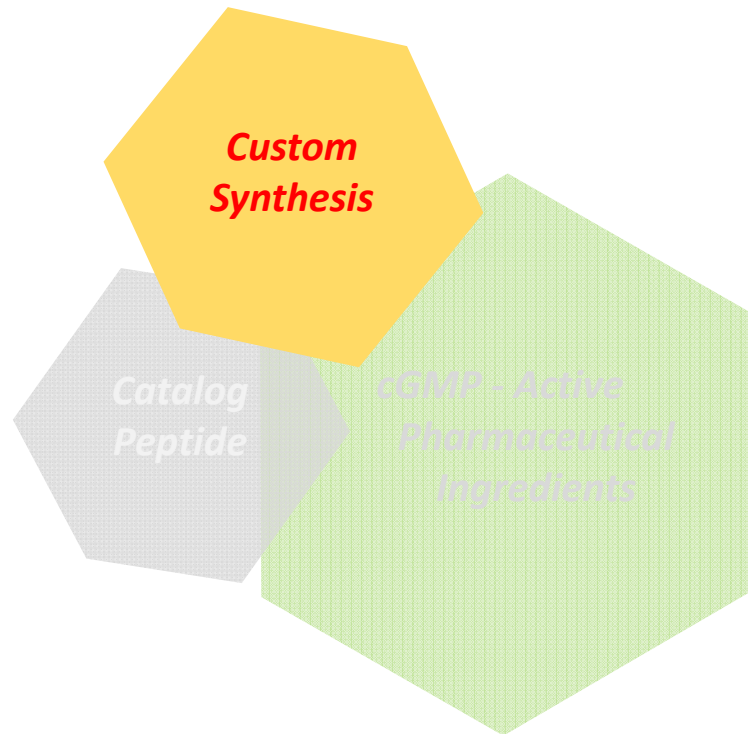
Catalog Peptides



- About 1,500 Products
- Bioactive Peptides
- Substrate & Inhibitors
- Fluorescent Materials
- Quick Label Derivative



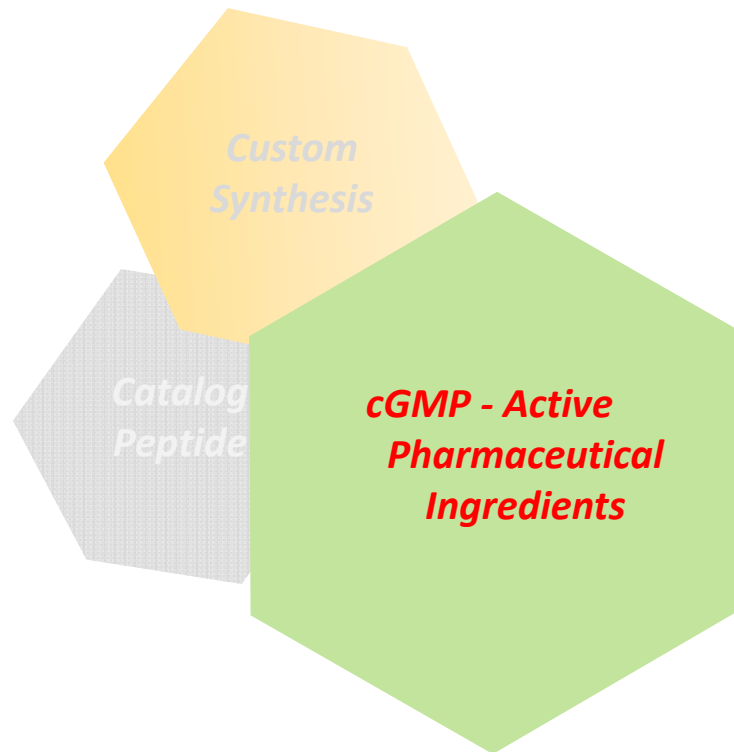
Custom Synthesis



- Small scale to large scale
- Peptide Arrays
- Organic Synthesis
- Process Development
- Contract Manufacturing
- New Products



cGMP-Active Pharmaceutical Ingredients (APIs)



Generic & Custom Synthesis

- Custom sequences
- Glucagon, human
- Leuprolide
- Octreotide
- Fertirelin
- Calcitonin, salmon
- CRF, human, rat
- Brain Natriuretic Peptide, human
- Thymopentin (TP-5)
- ACTH (corticotropin)
- Elcatonin
- Beta Amyloid (1-42), human
- Triptorelin
- Buserelin
- Thymosin a-1
- Somatostatin 14
- Exendin (9-39)



Peptide Modifications

- Oligosaccharides
- 5-Iodoacetamido
Fluorescein
- AFC
- AMC
- Biotin
- Bodipy
- BSA/KLH Conjugation
- Coumarin
- Cyclic peptide
- Cy3 and Cy5
- Dabcyl
- Dansyl
- EDANS
- Farnesyl
- FITC
- MAPS
- MCA
- Palmitoyl
- PEGylation
- Phosphorylation
- PNA
- Rhodamine 110
- Rhodamine B
- Ser (octanoic acid)
- Stearic acid modification
- TAMRA
(Tetramethylrhodamine)
- Texas Red
- Sulfated peptide [Tyr(SO₃)]



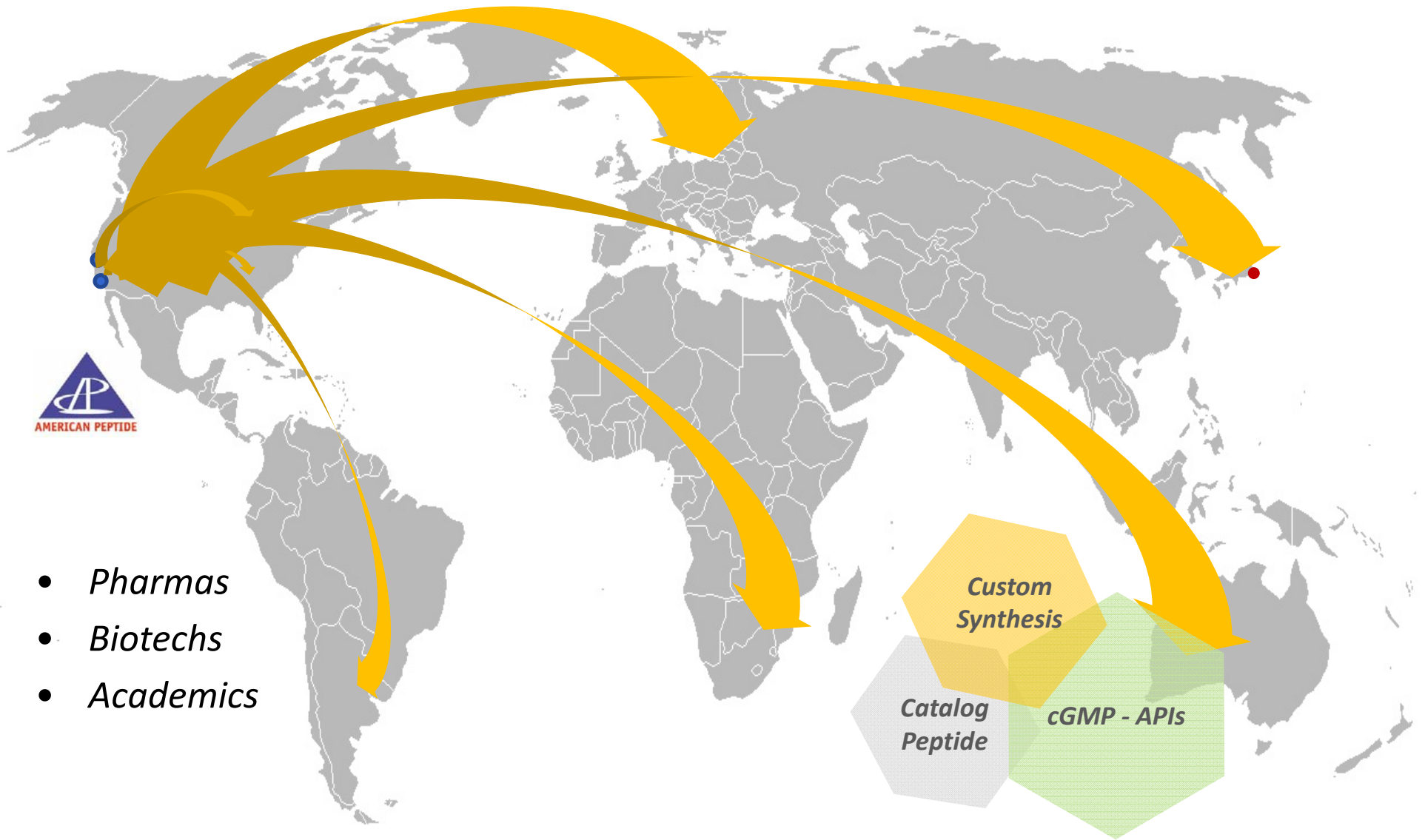
Our Customers (to name a few)



Distributors



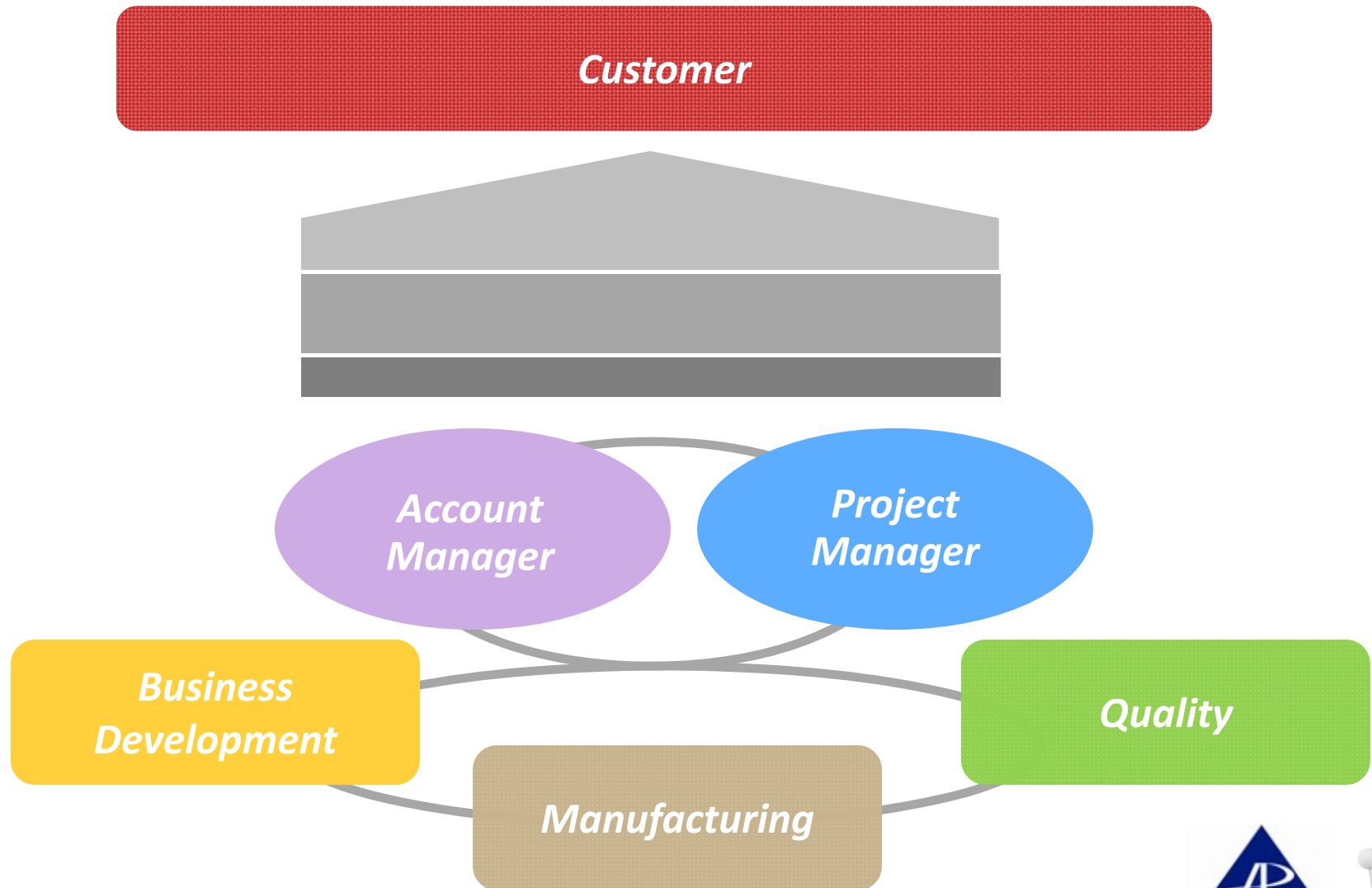
Our Target Market



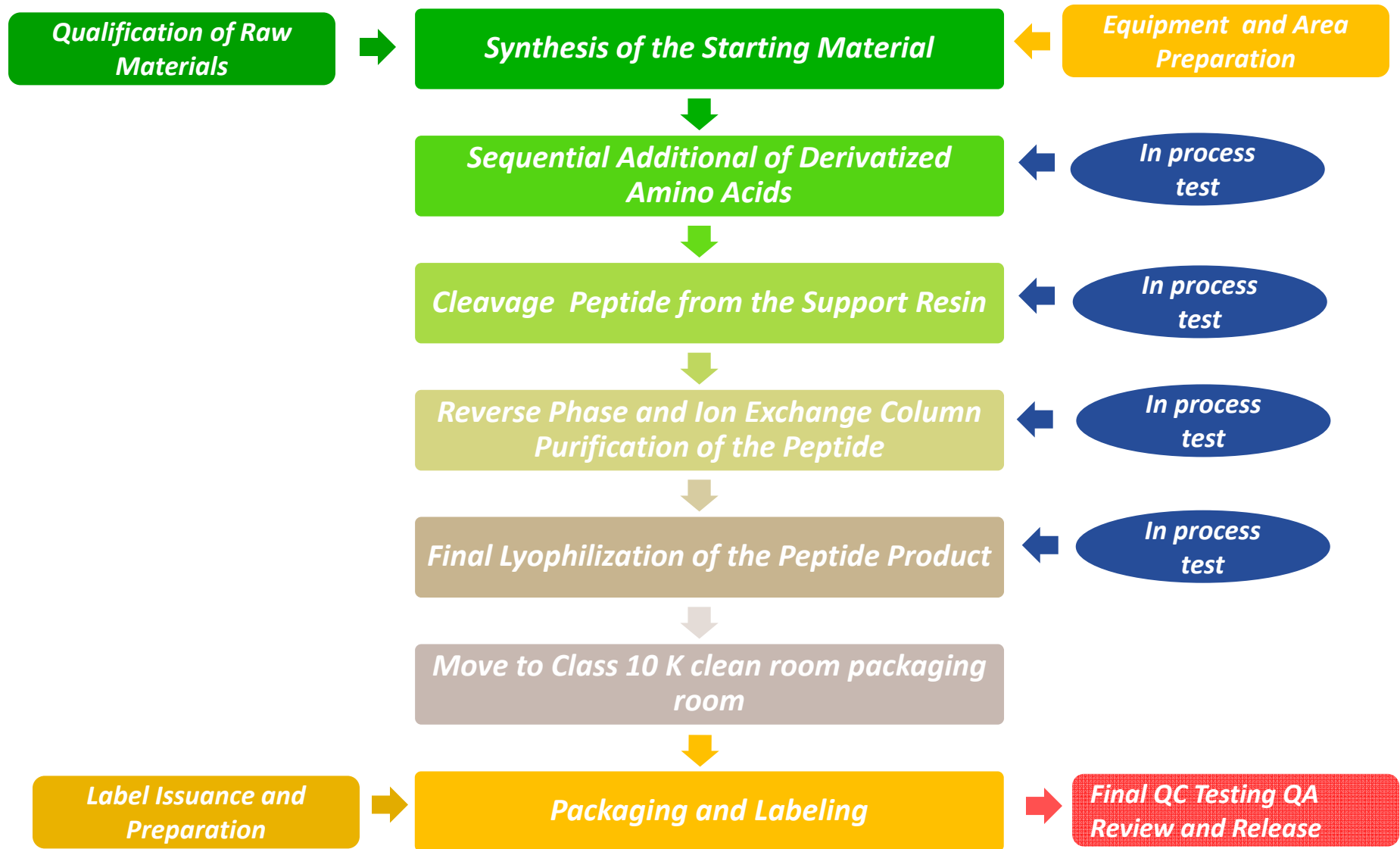
- *Pharmas*
- *Biotechs*
- *Academics*

USA, Canada, Japan, Europe, Korea, China, India, South Africa, Australia, Netherlands

Project Management



Peptide Process



Technical Capabilities

Synthesis:

- *Solid Phase*
- *Solution Phase*
- *Combination*
- *Common Strategies*

Purification:

- *Method & Tools*

Analysis:

- *Purity*
- *Identity*
- *Content*



Technical Capabilities - Synthesis

Synthesis:

- *Solid Phase*
- *Solution Phase*
- *Combination*
- *Common Strategies*

- Strategy: Boc, Fmoc, Cbz
- Current capacity: up to 160L (solid), 200L (solution) reaction volume
- Batch Size: up to 2Kg per batch of synthetic peptides depending on the sequence
- Expansion: 3X current capacity, 10Kg per batch depending on sequence



Technical Capabilities - Purification

- Preparative HPLC:
1/4 inch to 12 inch columns

*Purification:
- Method & Tools*

- Conventional Chromatography:
 - ion exchange
 - SEC
 - Gel Chromatography



Technical Capabilities - Analysis

Methods:

- HPLC, TLC, GC
- MS, IR, NMR*, UV
- Chiral analysis
- AAA
- Elemental analysis*
- Heavy metals*
- Bioburden
- Endotoxin
- Residual Solvents *
- Water Content

*contract labs

Samples:

- incoming materials
 - amino acids
 - solvents
 - reagents
 - others
- **BSE free**
- intermediate
- final products

Analysis:

- Purity
- Identity
- Content



GMP Facility Expansion: Stage 2 (completed in 2009)

Purification:

- Five additional purification suites:
Classified as class 100,000 (ISO-8).
- Additional 6 thru 12 inch columns.
- Additional walk-in refrigerator to be shared by the purification suites.

Three new packaging rooms under 10K.

Lyophilization:

- Two of 30L and 50L capacity tray lyophilizers in dedicated suite.

QC:

- Optical Rotation analysis equipment
- UPLC (analysis for HPLC, LCMS, AAA)
- TOC (Total organic carbon analyzer)



GMP Facility Expansion: Stage 3



Synthesis:

- Four additional synthesis suites:
1 Solution phase and 3 Solid phase.
For Solution phase: 3 reactors: 1000L, 1500L, and 2000L.
These reactors will be jacketed in order to control / maintain reaction temperature, and due to their large size, would be accessible by a 2nd floor steel platform.
- For Solid phase synthesis: Reactors from 200L - 500L.
- Increase in chemical usage and waste: additional space for solvent storage.

Lyophilization:

- Additional 200L capacity tray lyophilizer in dedicated suite.



Conclusion

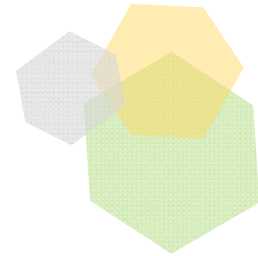
- Made over 20,000 sequences many of which have progressed to over 200 APIs made in last 3 years alone.
- Extensive experience from mg to multi-kg scale
- Conjugation & PEGylation experience
- Creating long-term business relations
- Growth potential





AMERICAN PEPTIDE COMPANY

Total Peptide Management™



Total Peptide Management™ is to bring our product portfolio and customer support capabilities to each individual client with efficient, high quality and cost effective peptide management solutions.

