

SENN

Solutions Synthesized

Peptide APIs

cGMP
FDA inspected
Solid Phase Synthesis
Solution Phase Synthesis

Senn Chemicals – your CDMO

for SWISS quality
peptides and amino
acid derivatives



Senn – your partner in peptide chemistry

Why **Senn Chemicals?**



Senn Chemicals

Your CDMO for SWISS quality peptides and amino acid derivatives

Dr. Daniel Müller, CEO

Senn Chemicals AG was founded in 1963, is family-owned and based in Switzerland. We are cGMP and ISO certified, and specialized in the production of peptides and amino acid derivatives. As a contract manufacturer we provide individual solutions starting from small scale for R&D to commercial API production.

Our dedicated team of professionals is engaged in a singular purpose: your success. To us, you are not a project and you're not only a client. You are our strategic partner. We know our success depends on yours, which inspires us to provide a level of commitment unprecedented in our industry. From the CEO to the lab technician, we are fully engaged and available to you. Everybody. Every day.

Let us show you the difference a true manufacturing partnership can make.





Guido A. Senn (1932–1999) founded the company from his garage in Dielsdorf in 1963. What had begun as a catalogue business for carbohydrates and rare sugars evolved into a global custom manufacturer serving pharmaceutical, biotechnology and cosmetic companies worldwide. Founder Guido A. Senn's legacy to us is that business ethics, treating employees like family, and reliability, are the pillars of success. From the garage to today's successful company, this story is one of a "patron" who slowly but surely built up, during his own lifetime, a company that has achieved worldwide recognition.

The cornerstone of his success is not hard to find. Before he ventured into a new territory, he always secured a source of raw materials that allowed him to be competitive in both quality and price. His main offerings, which won him customers all over the world, were reliable delivery, quality and trust.

Guido A. Senn had four sons, who are very committed to the continued success of the company. As owners of the company they preserve the legacy of their father to remain independent.

1963 The early days

Official opening of the "Laboratorium Guido A. Senn" in the garage of the apartment house on Geissackerstrasse in Dielsdorf.

Facts and figures

Deep know-how in high quality amino acid derivatives and peptides – since 1963

Employees

85

Founded in

1963

Dedicated
manufacturing in

Switzerland

Serving

**pharma-
ceutical,
biotech and
cosmetic
industries
globally**



approved



certified



inspected

Milestones

1

Founded in

1963

**Fmoc,
Boc, Z**

protected
amino acid
derivatives

Pioneered

amino acid
building block
synthesis

3

Specialized
in solution phase
synthesis up to
2'500 l

2

4



Senn Chemicals has been providing custom manufacturing services to pharmaceutical, biotechnology, diagnostic and cosmetic companies worldwide since 1963. Founded by Guido Senn in Dielsdorf, near Zurich, Switzerland, Senn Chemicals' focus today is on the manufacturing of peptides, peptide fragments, amino acid derivatives and small molecules.



A long
and eventful
chronicle

8

Next step:
Manufacturer of
**high
potent
APIs**

7

Manufacturer of
GMP APIs

Peptides

fragments
macrocycles
complex 40+ mer
linear/convergent
strategies

Growing

in solid phase
technology incl.
prep. HPLC and
lyophilisation

5

6

**Senn Chemicals – your CDMO for SWISS
quality peptides and amino acid
derivatives**

With a proven track record of experience in the manufacturing of high quality amino acid derivatives with very tight specifications, Senn developed its' own know-how to produce and manufacture peptides and peptide fragments over the years. In addition, we produce some resins, excipients and small molecules which fit to both our equipment and experience. We plan to further expand our production capacities and will invest in new equipment to extend our capability to produce APIs.

Passion & Creativity

Our basis for the best quality



As a pioneer in amino acid building block synthesis, Senn Chemicals is proud to offer you its' extensive experience and knowledge in peptide chemistry, amino acid building blocks, small molecules, complex organic molecules as well as functionalized polymers. From a single derivatized amino acid up to a 40+ amino acid peptide, we are ready to exceed your expectations. Increase the likelihood of the success of your projects by choosing Senn Chemicals as your reliable partner.



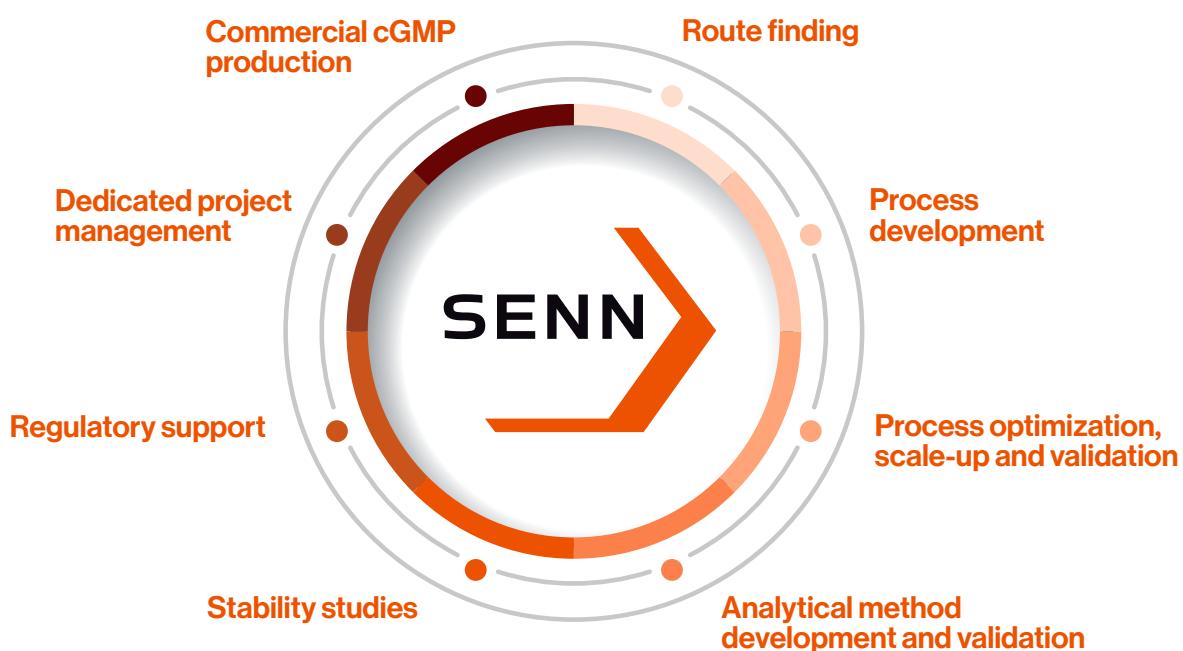
Service

Senn Chemicals has considerable expertise in working with clients involved in all phases of drug discovery, development and manufacturing. Senn Chemicals offers the following custom manufacturing services in the areas of peptides, protected peptide fragments, peptide mimetics, special amino acids, carbohydrates and specialty organic compounds:



Development Capabilities

Senn Chemicals provides outstanding synthetic expertise in the manufacturing of complex peptides. Our knowledge accelerates your success and accompanies your project, starting from the early development in preclinical through the various clinical phases to commercialization. Using advanced purification techniques such as chromatography, crystallization, precipitation and lyophilisation, we obtain highly purified products matching or exceeding your specifications. Based on your regulatory and cost requirements we manufacture under non-GMP or cGMP. We include Modde and Dynochem software tools for process development.



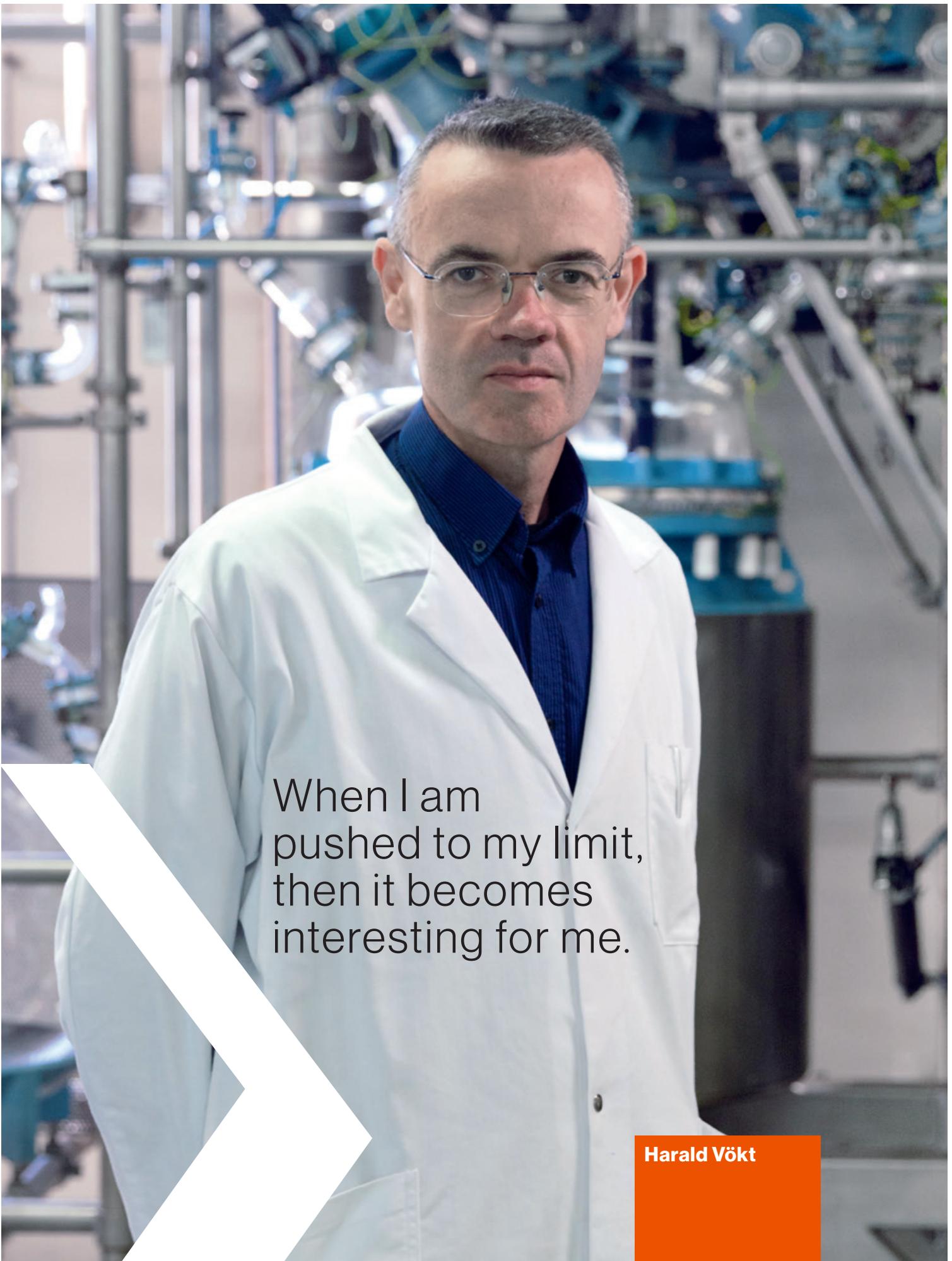
Quality

We supply peptides and peptide fragments to the pharmaceutical industry as well as to the cosmetic industry. We are cGMP approved and have been inspected several times by the US FDA. Quality really matters to us. With the majority of our customers, we have Quality Agreements in place to better serve the individual requirements of our customers.

At Senn Chemicals all aspects of cGMP are controlled in the process oriented and risk based management system according to ISO 9001:2015 standards.

From laboratory scale development through to full scale commercial cGMP manufacturing, we provide full analytical support to ensure the appropriate level of compliance at every project stage. We also have the expertise to develop the necessary analytical methods, perform process validations and compile documentation such as drug master files (DMFs).

As a service Senn Chemicals provides indicative stability studies, ICH Q1 stability studies, analytical method validations and analytical reference standards generation. Senn Chemicals supplies products manufactured under cGMP to customers worldwide in the pharmaceutical, biotechnology, cosmeceutical, cosmetic and nutraceutical fields. Senn Chemicals is regularly inspected by customers and regulatory agencies (US-FDA, Swissmedic).



When I am pushed to my limit, then it becomes interesting for me.

Harald Vökt

Head of Production
and marathon runner



For me it's all about people, respect and trust. Building reliable and sustainable partnerships with customers excites and motivates me every day.

Kathleen Noack

Chief Marketing Officer
and passionate swimmer



Top Swiss quality

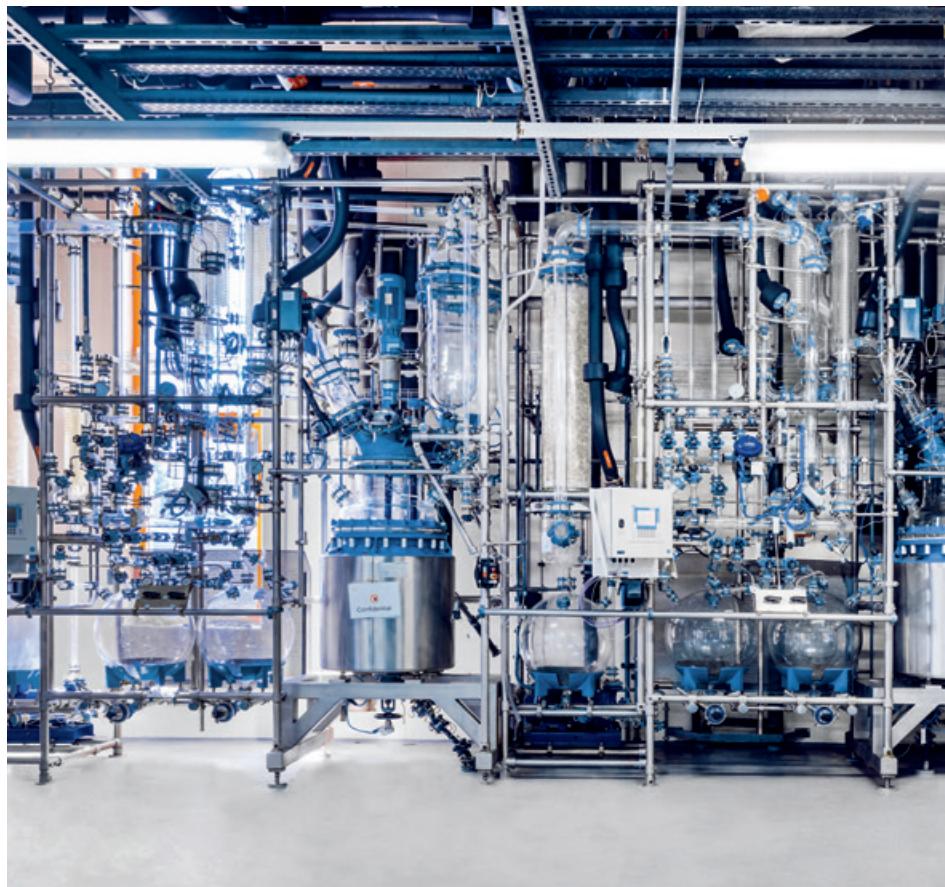


From early research to commercial phase

At Senn Chemicals, we have technologies in house to produce peptides with both solid phase and solution phase techniques. Depending on the specific needs of our customers we chose the appropriate synthetic strategy based upon the nature of the peptide, the requested volumes and the desired specification.

If a customer requires, for instance, large volumes of a short or medium sized peptide, our R&D department will develop a solution phase synthesis. However if long peptides are required, a SPPS process will be developed using either a linear or convergent/hybrid synthetic strategy. After scale-up work and process development, peptides will be produced in our large 2500 liter reactors and coupled. In parallel, analytical methods are developed and validated if needed. Choosing the most economic route of synthesis and providing optimal batch sizes enables us to be competitive as well as maintaining high SWISS quality.

In order to produce a wide variety of high quality peptide related products, Senn Chemicals has refined solid and solution phase peptide synthesis technologies, which can eliminate the need for traditional chromatographic purification techniques, thereby in many cases saving time and money. With fully automated SPPS reactors, we can support your peptide production needs from gram to multi-100 kilogram scale. Our scientific staff has accumulated decades of expertise in the manufacture of high yield peptide fragments and peptidomimetics using solution phase synthesis. Therefore we are able to deliver unparalleled purity and exceptional cost-efficiencies with every batch.



cGMP compliance

Senn Chemicals operates under the quality parameters and guidelines established by both the European and United States authorities. As such, cGMP compliance is routinely audited and confirmed by both Swissmedic and the U.S. Food & Drug Administration (FDA). Moreover, in the spirit of continuous improvement, we routinely commission independent third party auditors to evaluate our facilities and processes.

As a consequence, you can rely on our superior quality standards. Additionally Senn Chemicals complies with the Swiss regulations concerning environmental protection and occupational health and safety regulations. State-of-the-art analytical technology ensures the control of all the parameters related to your products. We collaborate as required, with third party contract laboratories that have been qualified to meet all regulatory demands as well as your specification requirements.



- Multi-Purpose Glass-Lined Reactors 100–2500 L
- Hydrogenation Reactors 630–2500 L
- Solid Phase Reactors 80–160 L
- Low Temperature Reactors (- 80 °C)
- Preparative HPLC Chromatography
- cGMP Suites
- Lyophilisation



Innovation

**Dr. Markus
Löweneck**

Head of R&D and
passionate mountaineer

**To invest in knowledge
is always the best
investment one can make**

Cosmetic Peptides at Senn Chemicals

Peptides have become the most innovative and vital ingredients for the cosmetic industry. Peptides are utilized as active ingredients in cosmetic products due to their unique properties:

- Stimulate wound healing
- Improve elasticity and firmness of aged skin
- Reduce the deepness of wrinkles
- Reduce fine lines
- Provide anti-inflammatory activity
- Enhance collagen synthesis
- Stimulate endothelial cell proliferation and angiogenesis
- Affect skin pigmentation (lightening or tanning of skin can be enhanced)



Advanced peptides are used in anti-aging formulations and in novel products to desensitize, lighten or tan different types of skin. We at Senn Chemicals have the expertise and the facilities to develop and produce your cosmetic peptide from R&D to commercial scale – we are your committed partner for this fast growing market.

All peptides for cosmetic applications are manufactured in accordance to ISO 9001-2015 standards and cosmetic regulatory guidelines. Raw materials can be separately sourced with RSPO, kosher, halal, vegan and BSE/TSE certificates. Senn Chemicals is supplying Nagoya protocol compliant customers worldwide.

Create your own innovative peptide

N-Terminus	Sequence [2-30 AA]				C-Terminus	Salt Form
H-	Gly	Ala	Val	Leu	-OH	AcOH
Ac-	Ile	Met	Phe	Trp	-NH ₂	HCl
Pal-	Pro	Ser	Thr	Cys	-R	TFA
Biot-	Tyr	Asn	Gln	Asp		Inner Salt
Any other	Glu	Lys	Arg	His		Any other

Solutions Synthesized



To expect maximum performance – that is something I start with myself.

Stefan Kolp

Plant Manager
and racing cyclist



One is not born with
experience – and in my
profession I use it
every day.

Simone Rahm

Quality Assurance
Manager and keen hiker



A good working environment is for me an essential element to ensure we provide products of high quality.

Amelfi Moya-Rodriguez

Staff member production and ardent dancer



Working together as
partners is for us the key
to ensuring a sustained
success.



Garry Schofield

Business Development
Manager and crazy
football fan

Senn – your partner in peptide chemistry

Senn Chemicals AG

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