



TOSOH

TOSOH
THE ART
OF SEPARA
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TOSOH BIOSCIENCE

TOSOH CORPORATION

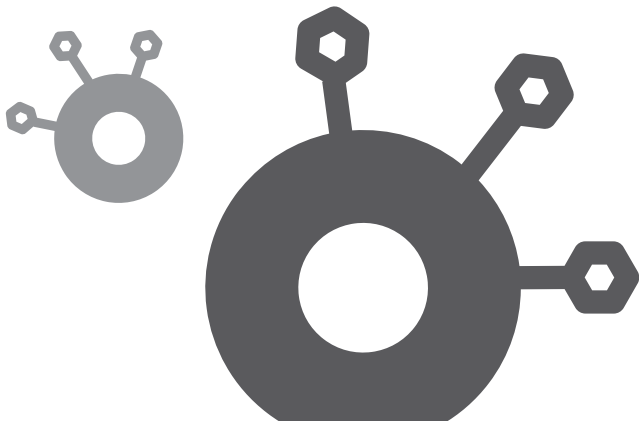
THE CHEMISTRY OF INNOVATION

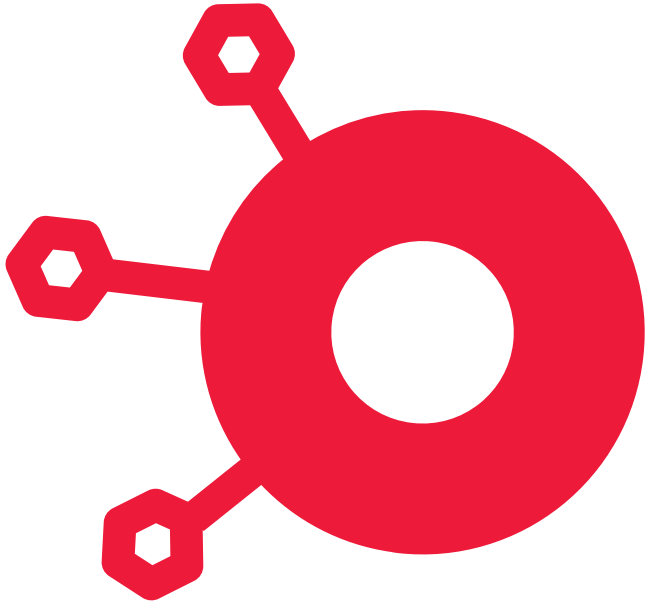
Tosoh Corporation, the parent company of Tosoh Bioscience, is one of Asia's largest chemical companies. More than 100 companies worldwide with a multiethnic workforce of more than 11,500 people are part of the Tosoh family.

Established in 1935, Tosoh is listed on the First Section of the Tokyo Stock Exchange. It has built balanced product lines of commodity chemicals for industry and of

specialty products and materials for high tech and niche markets.

Globally, high-tech industries ranging from pharmaceuticals and health care to semiconductors, consumer electronics, and automobiles depend on Tosoh's sophisticated products and specialized offerings in high-value added bioscience, organic chemical, and advanced materials.



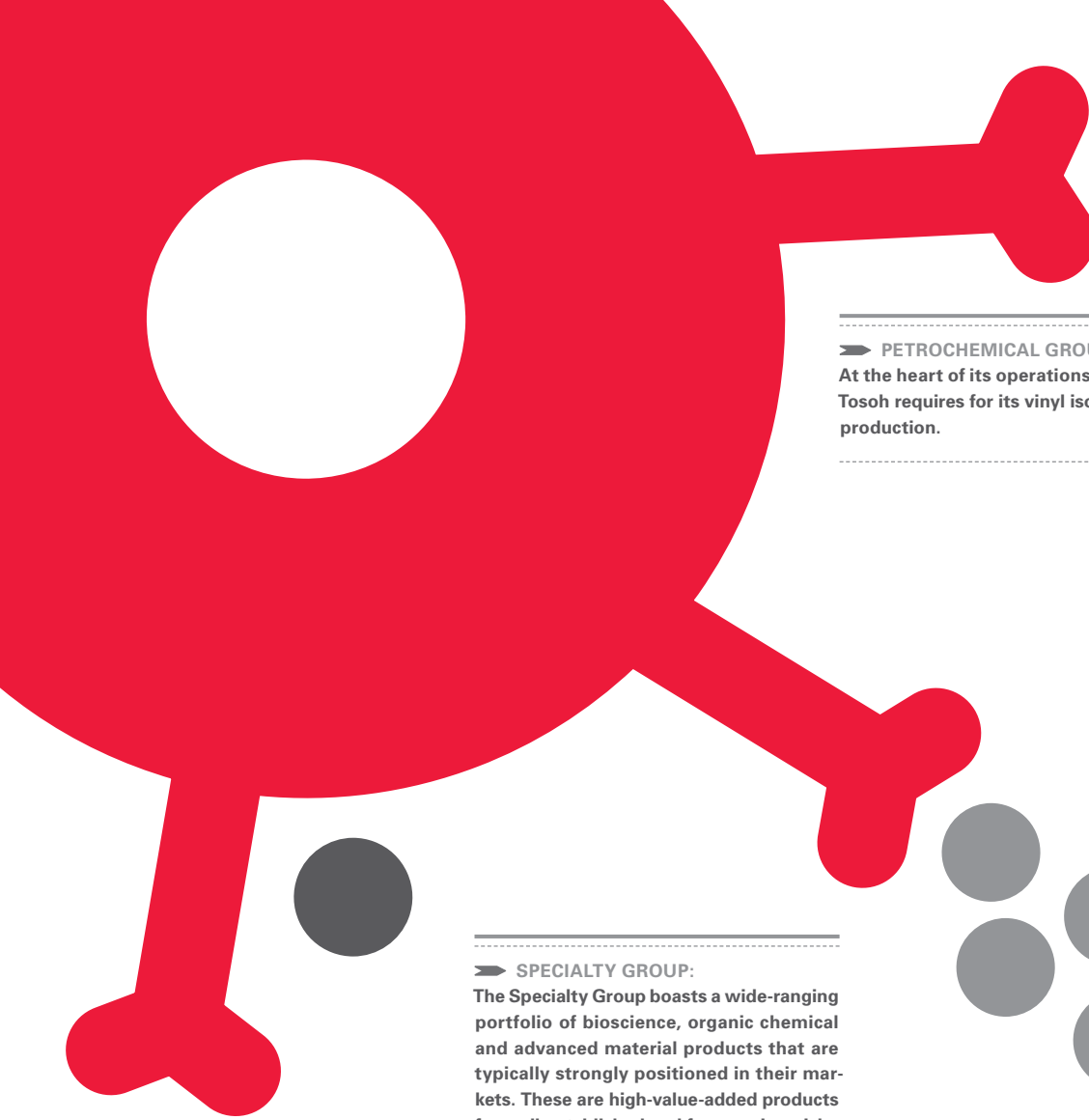


The Nanyo manufacturing complex in Yamaguchi, Japan, is a self-contained city with its own power generation plants and port. It is a model of environmental responsibility and has earned ISO 14001 certification for environmental management.

Production follows ISO 9000 series international standards in quality assurance for 100% of the products it manufactures and ISO 13485 for medical devices.



Aerial view of Tosoh's Nanyo Complex located in Shunan City, Yamaguchi, Japan.



➤ **PETROCHEMICAL GROUP:**

At the heart of its operations, it supplies half of the ethylene Tosoh requires for its vinyl isocyanate chain and polyethylene production.

➤ **CHLOR-ALKALI GROUP:**

It supplies global industry with the raw materials for the many products of a modern lifestyle. Its vinyl isocyanate chain provides the largest fully integrated manufacturing capacities of their kind for chemical commodities in Asia.

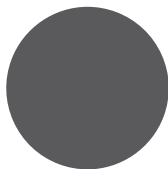
➤ **SPECIALTY GROUP:**

The Specialty Group boasts a wide-ranging portfolio of bioscience, organic chemical and advanced material products that are typically strongly positioned in their markets. These are high-value-added products for well-established and for growing niche markets.

➤ **ENGINEERING GROUP:**

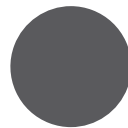
The Engineering Group is specialized in water treatment, soil purification, and construction.

WHEREVER YOU ARE WHATEVER YOU NEED WHENEVER YOU WANT

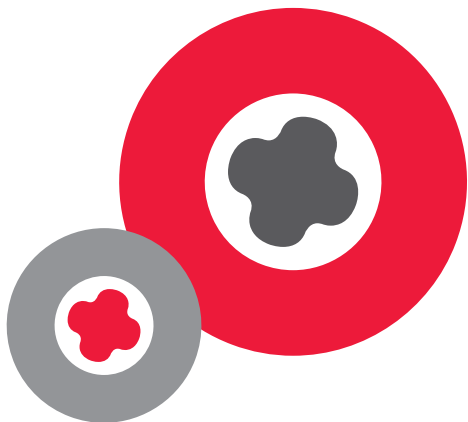


Tosoh Corporation is divided into 13 business divisions that are organized in five groups: Petrochemical, Chlor-alkali, Specialty and Engineering. A fifth group comprises logistics, construction, engineering support, and other services.

Tosoh Bioscience is part of the Specialty Group. We, the Separation Business Unit, are a leading supplier of chromatographic columns, media, and instruments. Our counterpart, the Diagnostic Business Unit, supplies sophisticated diagnostic systems.



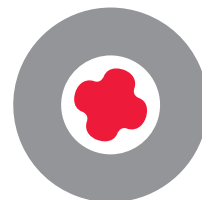
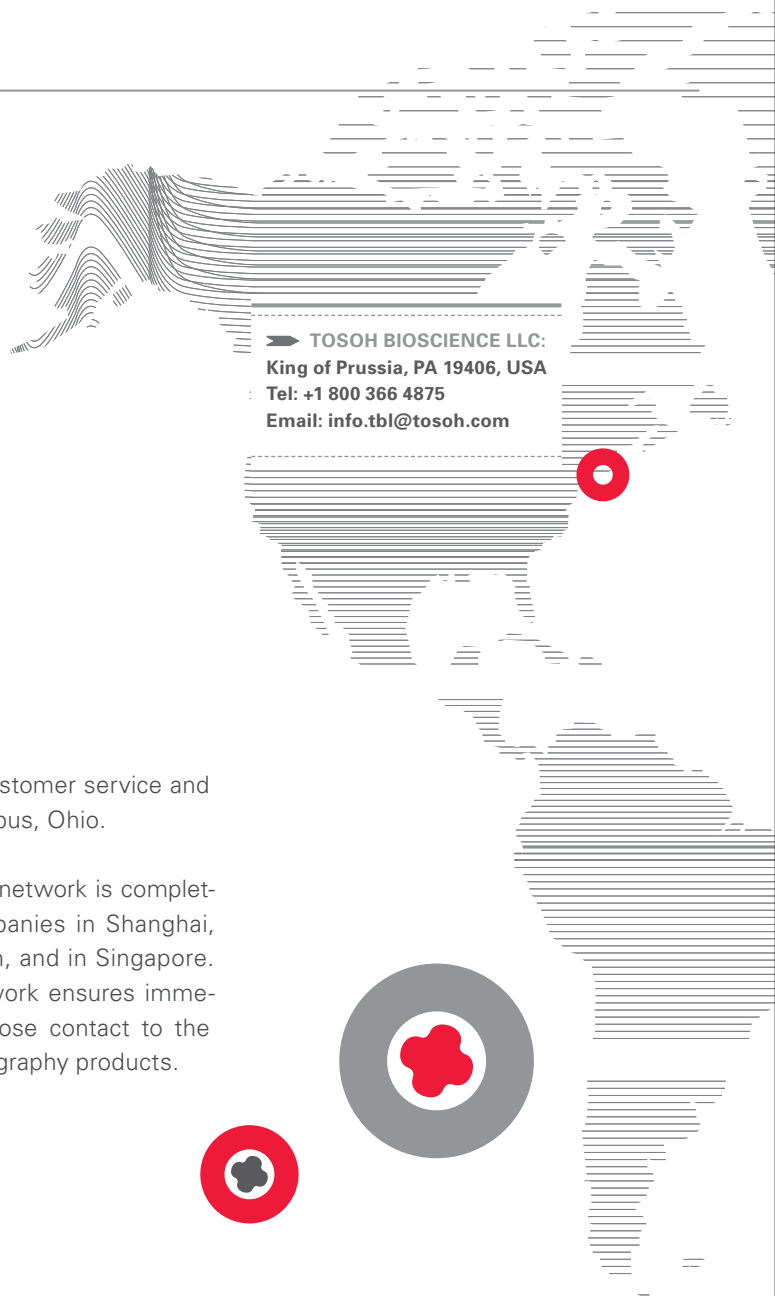
TOSOH BIOSCIENCE OUR GLOBAL NETWORK CLOSE TO YOU

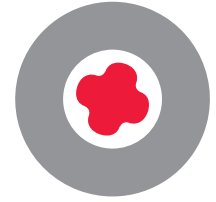


Tosoh's state of the art manufacturing sites in Japan provide products to the sales and support network across the world. Tosoh Bioscience's European headquarters of the Separations Business Unit are located in Griesheim, Germany, with customer service and supply chain in Tessenderlo, Belgium. The markets served comprise Europe, Middle East and Africa. The Separations Business Unit headquarters in the United States are located in King of Prussia, Penn-

sylvania, USA, with customer service and supply chain in Columbus, Ohio.

The global distribution network is completed by our sister companies in Shanghai, China, in Tokyo, Japan, and in Singapore. This international network ensures immediate response and close contact to the users of our chromatography products.





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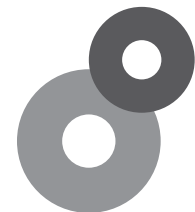
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SOLUTIONS FOR YOUR SEPARATION TASKS FROM LAB TO PRODUCTION



Tosoh Bioscience is a leading supplier of chromatographic columns, media and sophisticated gel permeation instruments. By bringing the best in quality products, services and technologies from Tosoh Corporation, Tosoh Bioscience is dedicated to pioneering solutions used to solve complex separation tasks.

Our products are popular in the biotech and biopharmaceutical industry and used in R&D, process development, production, and quality control. Typical applications comprise the purification of therapeutic proteins in lab, pilot, and commercial scale as well as their characterization by UHPLC or HPLC. The bioseparation product line is supplemented by GPC/SEC instruments for the molecular weight determination of natural and synthetic polymers.

For more than 25 years, cutting-edge solutions to meet the needs of customers developing and producing new medicines including plasma products, monoclonal antibodies, recombinant proteins, peptides, vaccines and oligonucleotides. We provide support during the development of a validated HPLC assay or in preparation for a filing of a new drug with the regulatory agencies.

➤ **SEPARATION & PURIFICATION:**

500+ specialty products in analytical HPLC columns, chromatographic resins, and GPC instruments to meet your analysis and purification needs.



➤ **TOYOPEARL®:**

TOYOPEARL chromatography resins are specifically designed for the purification of biomolecules. Based on a rigid polymer structure, they show excellent physical strength and ideal flow characteristics for industrial downstream processing.

➤ **TSKgel®:**

Extensively used in laboratories all over the world, our TSKgel columns are designed for researchers seeking the highest level of performance. Covering the total range of (U)HPLC, these columns offer high resolution, excellent reproducibility, and long column life. Scaling up from analytical to preparative columns is made simple and easy.



➤ **EcoSEC®:**

The EcoSEC series of fully automated liquid chromatography systems for gel permeation chromatography is designed for robust polymer analysis. Both solutions, for ambient and for high temperature GPC, combine dual pump solvent systems, sophisticated heating, and a highly efficient detection system to deliver highest reproducibility.

SPECIALIZED. RELIABLE. SOLUTIONS.

TOSOH BIOSCIENCE GMBH IN THE CENTER OF EUROPE

Tosoh Bioscience's European headquarters for its separations business unit are located in Griesheim, Germany, with customer service and supply chain in Tessenderlo, Belgium. The markets we serve comprise of Europe, Middle East and Africa.

The EcoSEC instruments, TSKgel columns, and TOYOPEARL media sold by Tosoh Bioscience GmbH are manufactured at Tosoh's Nanyo Complex in Japan. All orders are processed and all chromatography and diagnostic products are shipped from this ISO 13485/9001 registered facility.

Tessenderlo / Belgium

Customer Service

Logistics

Warehouse



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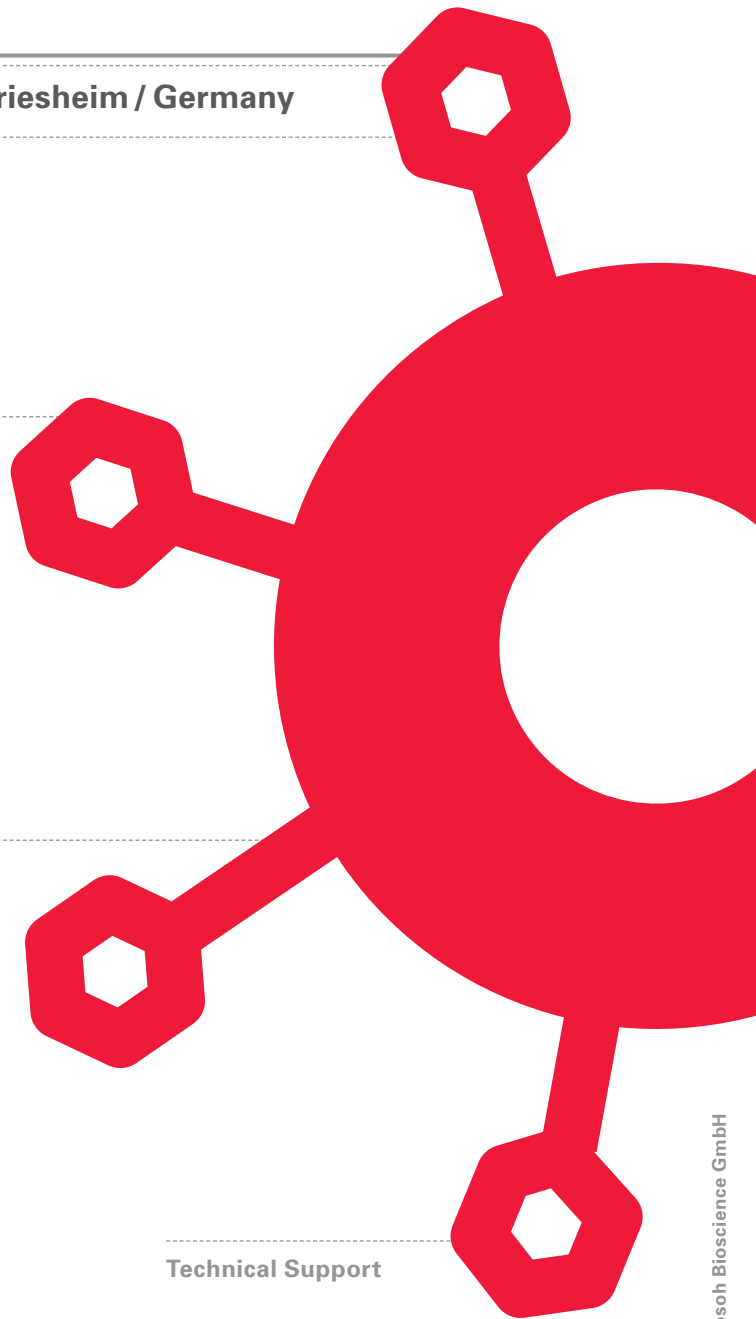
Tosoh Bioscience offers EcoSEC GPC instruments, a comprehensive line of TSKgel and TOYOPEARL media and pre-packed TSKgel columns for all common modes of liquid chromatography.

Griesheim / Germany

Sales

Marketing

Technical Support





➤ **HIC/RPC CONFERENCE:**

Tosoh Bioscience is the sole sponsor for the renowned HIC/RPC Bioseparation Conference (www.hic-rpc.org).

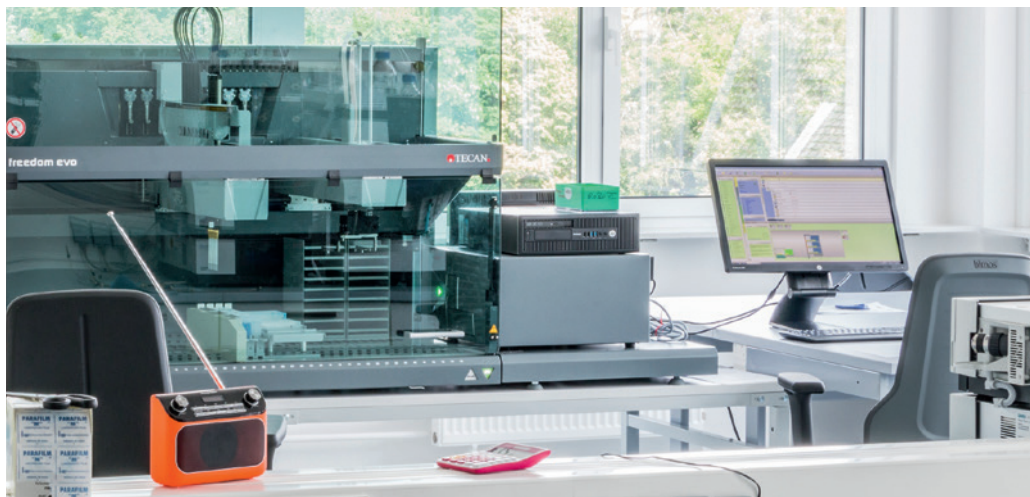
➤ **BIOSEPARATION FORUM CHROMATOGRAPHY:**

This roadshow series provides the latest technical and scientific information about downstream processing and UHPLC analysis, presented not only by specialists from Tosoh Bioscience but also by invited speakers from other suppliers, academia, and biotech industry.

TECHNICAL EXPERTISE

TOSOH BIOSCIENCE

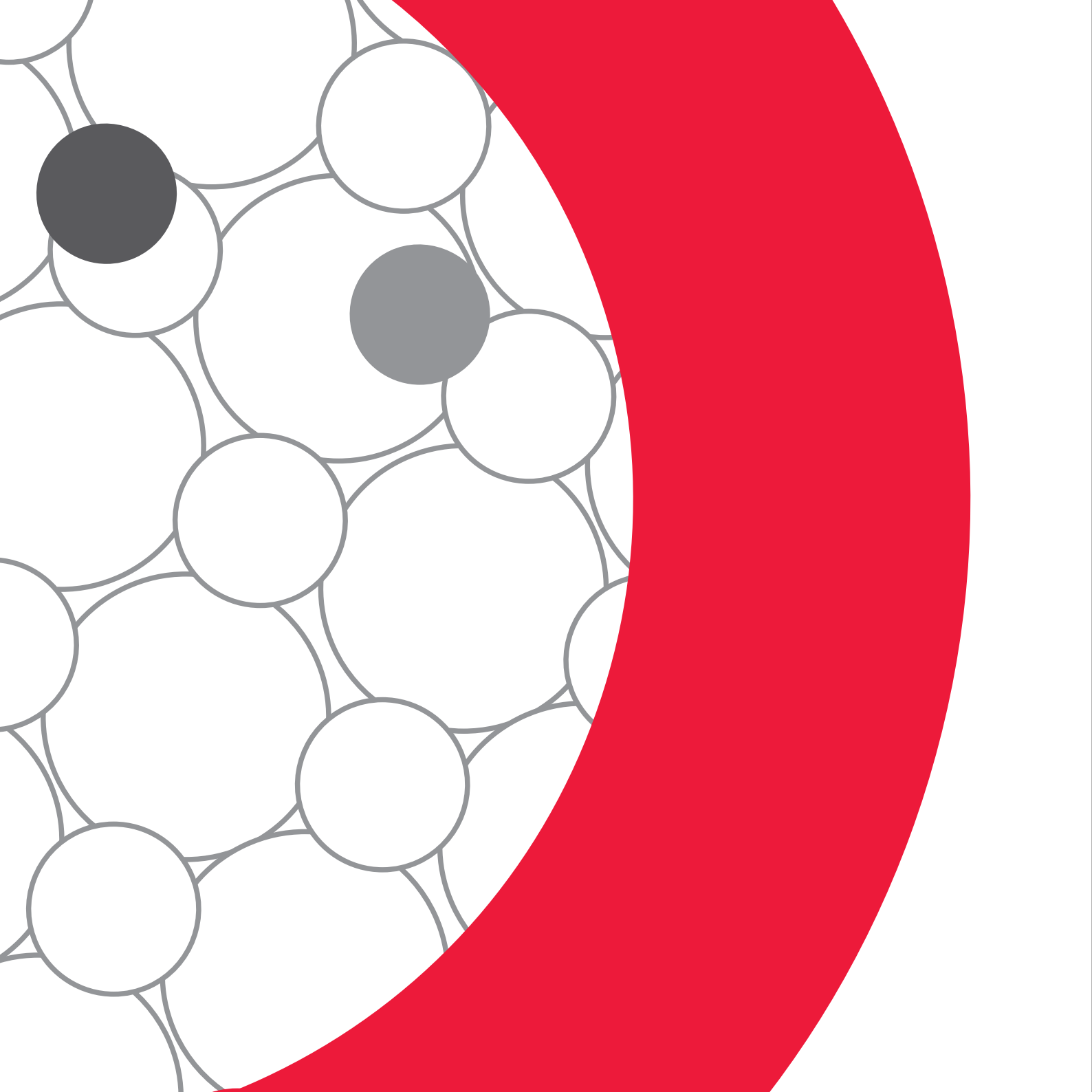
EVENTS AND TRAININGS



Tosoh Bioscience offers a range of Technical Support services to our TSKgel, ToyoScreen, and TOYOPEARL chromatography products and EcoSEC GPC instruments. We are committed to providing prompt and skilled service for these and other requests: to provide you with the right advice to select the best column, resin, or instrument for your application,

to help you with product installation, method development, and troubleshooting, to guide you with packing TOYOPEARL and TSKgel resins into large production columns, to support you with regulatory files for a submission to the FDA.

One of the services that stand out in the industry is the Tosoh Chromatography Workshop Series providing a comprehensive background to the chromatographic purification of biomolecules. These courses provide a balance of effective presentations and practical hands-on experience under the guidance of qualified tutors.



TOSOH BIOSCIENCE GMBH

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TOSOH