

Advancing Biological Research: Exploring the Critical Role of Biochemical Purification and Sample Preparation

The field of biological research heavily relies on the precise purification of analytes, including nucleic acids, proteins, and metabolites. These purified samples are essential for a range of downstream techniques in cytology, genetics, genomics, molecular biology, and biochemistry, such as NGS, PCR, ELISA, and Mass Spectrometry. As such, biochemical purification, also known as sample preparation, stands as a crucial initial step within the life science industry. The quality of sample preparation greatly influences the outcomes of research, development, and manufacturing efforts in academia, pharmaceuticals, and biotechnology industries. Therefore, it is imperative to delve into the subject of sample preparation chemistry, consumables, and automation to advance the technology in this field. This seminar aims to provide a comprehensive overview of sample preparation technology for a diverse range of research applications. It will cover the development of sample prep workflows for various sample types, including biological samples such as blood, plasma, cells, tissue, FFPE, urine, stool, saliva, and swabs, as well as environmental samples like wastewater, soil, and seawater. Furthermore, we will explore the sample preparation of biomolecules from non-human sources, such as viruses, bacteria, fungi, plants, and animals, which support a wide array of research and industrial applications.

Our aim for this seminar is to equip you with a deep understanding of the challenges faced in sample preparation and present effective solutions to overcome them. We will also highlight the innovative sample preparation automation solutions offered by Thermo Fisher Scientific. Join us as we delve into the fascinating world of sample preparation technology and its pivotal role in advancing biological research.