CONTINUOUS CHROMATOGRAPHY BEYOND AFFINITY CAPTURE OF MONOCLONAL ANTIBODIES

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Key Words: process intensification, continuous chromatography, flow through, size exclusion, viral vectors.

The focus on process intensification and increased process control continues in the biopharmaceutical industry. The key driver is to reduce production costs, while maintaining product quality and throughput in the manufacturing of biopharmaceuticals. The introduction of continuous processing technologies has supported the industry in evaluating different approaches for continuous and/or hybrid solutions for up- and downstream processing. Continuous chromatography has the potential to increase chromatography resin capacity utilization, eliminate or minimize the need for intermediate hold-up steps, reduce equipment footprint and buffer consumption as well as introducing a higher degree of automation. The benefits from this can in turn have a positive impact on the process economy. The efforts in continuous chromatography in the industry so far have mainly been focusing on affinity capture of monoclonal antibodies (mAb) but the interest in exploring other applications is now increasing. In this poster, we will show the usage of periodic counter-current chromatography (PCC) in and beyond affinity chromatography mAb capture applications, for example in purification processes for viral vectors as well as plasma proteins. We will show examples of flow through applications, ion exchange- and size exclusion chromatography in a continuous mode.