When traditional analysis is not enough.

Contact:

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CapSenze mAbLAB technology

Integrated CapSenze mAbLAB-system:

- mAbLAB footprint 85 × 65 × 30 cm
- Operated using single syringe pumps and multiport valves from Tecan
- Controlled by CapSenze Biosystems software
- Serial columns designed in a user-friendly cassette format
- Cooled autosampler/fraction collector Alias™ from Spark Holland

Continuous online Cetuximab (Erbitux) F\textsubscript{d} - glycan analysis

- Bioreactor
  - Membrane cultivation
  - Cetuximab 1 mg/ml

- Sample volume 50 μL
- Column 1
  - Immobilized FabICATOR
- Column 2
  - F\textsubscript{c} - Capture
  - Post-column F(ab\textsubscript{2}) - reduction
    - TCEP 0.1M, Guanidine-HCl 8M

- Lc/F\textsubscript{d} fraction
- UHR-MS

mAbLAB work flow
The mAbLAB system setup

mAbLAB details

> Pump and valve system – OEM/Tecan
> Sample probe for online bioreactor sampling (CapSenze)
> Microfluidic enzyme cassette (CapSenze/Genovis) Flexible bag system for liquid handling (disposable)
> Integrated flow-through UV-detector (Runge)
> Web-based software (CapSenze)

mAbLAB enzyme enabled mAb fractionation

Repeatability study of Trastuzumab Fc glycoprofile
The benefits with online analysis

The inherent intricate dynamics of biological systems results in that small process conditions changes can invoke large effects in product quality.

The possibility to perform advanced online quality control steps during cultivation and downstream processing give means to:

- Monitor and control contaminants
- Acquire quality assurance of raw materials and water
- Ensure quality criteria of the target product

Online analytics also have the benefits of:

- Gain profound knowledge of the bioprocess
- Possibility to redirect process parameter anomalies
- Perform monitoring and control with short response times

Cetuximab Fd-glycoprofile over 0-48 h mammalian cell culture

Abatacept glycoprofile and assignment of the 0.39% aglycosylated form with sub-ppm mass accuracy.
Literature


CapSenze BioSystems AB

CapSenze Biosystems AB is a Swedish research company based in Lund. Our business idea is to develop and market flow-based assays and electrochemical biosensors.

The company was formed around an invention of a novel way to measure capacitance using a biosensor format. Research on the sensor has been carried out for over 17 yrs and we have managed to transform an academic lab setup into a commercially viable instrument.

CapSenze is currently involved in several ongoing research projects:

- VINNOVA VinnVerifiering,
- FP7 CapHIV,
- FP7 Goldfish,
- FP7 Intelliremed,
- FP7 Sea-on-a-chip
- H202 Micromole
- VINNOVA Innovativa Startups 2017

Contact

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