



Plant-based protein expression

Plant-based expression systems are often overlooked, despite their unrivalled production speed, high scalability, low cost and eukaryotic protein modification – acib can help you to tap that potential with our deep understanding and many years of experience!

BACKGROUND

The plant *Nicotiana benthamiana* (a close relative to the tobacco plant) is an efficient eukaryotic production-platform for a variety of recombinant proteins. The system is especially favoured for proteins that are difficult to express in bacterial hosts, as they provide intrinsic eukaryotic features. The recently optimized transient expression approach offers significant advantages in production speed (product can be harvested 4-6 days post DNA construct delivery), flexibility and expression level.

TECHNOLOGY

acib has longstanding experience with *N. benthamiana*-based recombinant protein production yielding up to 50% of total soluble protein. The system works exceedingly well for antibodies (e.g. 50-250 mg purified IgG per kg of plant material) and has been applied in emergency use, e.g. during the Ebola and SARS-CoV-2 outbreaks. The approach is suitable in producing highly complex proteins, such as oligomeric IgM and IgAs. We have the know-how and potential partners for up-scaling of protein expression. In addition, acib can offer a versatile glycol-engineered *N. benthamiana* platform for tailor-made glycoprotein production.

OFFER

Under protection of a CDA/NDA we provide you with strategies for expression of your gene(s) of choice in *N. benthamiana*. We can provide a concept for expression (1-2 month) or the wet-lab proof-of-concept (3-6 months) or the full optimization until your target value has been reached. Any IP developed in such projects would fully belong to the investor/industrial partner.

acib-EXPERTS:

Prof. Dr. Herta Steinkellner
Prof. Dr. Richard Strasser

AVAILABLE FOR:

- Investments
- Joint Research Projects
- Contract Research

DEVELOPMENT STATUS:

Technology Readiness Level 1-5

IPR:

Will be generated for our industrial partner / investor

KEYWORDS:

Nicotiana benthamiana
Plant-based expression
Transient expression
Glyco-Engineering
Antibodies
Up-Scaling
Reliability
Productivity

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