



# **CUSTOM PROTEIN AND ANTIBODY EXPRESSION**

The protein science team at ChemPartner occupies a specialty facility equipped with state-of-the-art instruments and technology for expression and purification to produce high-quality recombinant antibodies and proteins in HEK293 or CHO cells as well as nonmammalian expression systems.

With a cell culture capacity of 300+ liters/week, protein products (multiple gram quantity) can be produced in a few weeks. With more than 40 sets of purification units, multiple purifications are processed in parallel.

We have successfully completed hundreds of protein expression and purification projects for our international clients as well as delivered 1,000+ recombinant proteins and antibodies in various scales.

SCHEDULED EXPERIMENTS	DELIVERABLES	TIMELINE
Gene synthesis and vector construction	Technical Report	2-3 weeks
Small scale expression and purification test	Technical Report	2 weeks
Scale-up and QC (SDS-PAGE, SEC-HPLC) (Optional: LC-MS, RP-HPLC)	Technical Report and Final Product	3 weeks

#### SAMPLE SUBMISSION

Protein sequence or cloned vector

#### **DELIVERABLE**

- Protein/antibody with >95% purity
- · Documented methods and testing conditions
- · Quality control statement (SDS-PAGE, SECHPLC); (Optional: LC-MS, RP-HPLC)

#### **RELATED SERVICES**

- · Protein production in e. coli system
- · Protein production in yeast system
- Protein production in baculo-virus system

### Vector Design

- Construct mammalian expression vector with choice of human IgG1, 2, 3, or 4 or mouse IgG1, 2a, 2b, or 2c isotype
- Codon optimization and gene synthesis

#### **Plasmid Preparation**

- Sequence verification by DNA sequencing
- Plasmid DNA preparation for transfection

### Pilot-Scale Expression

- Expression detection
- Choice of CHO or HEK293 cells
- Pilot-scale expression and purification 100ml (0.5-5 mg)

## arge-scale Expression

- Large-scale transient transfection and expression Up to 300L
- Multi-step purification 100ml (0.5-5 mg)

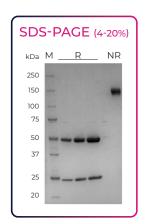
# **Quality Control**

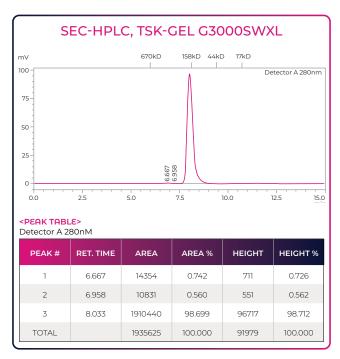
- Product QC analysis, SDS-PAGE, SECHPLC RP-HPLC, LC-MS
- Endotoxin level determination

# **CASE STUDY**

ANTIBODY NAME	ISOTYPE	HOST CELL	EXP. VOLUME	QUANTITY	SEC-HPLC	ENDOTOXIN
XXX	hulgG1	CHO	20 L	>1900 mg	5.58 min 100%	0.01 EU/mg

- Transient transfection and expression in 50L CellBag using Wave system
- 2 g hlgGl Ab recovered after affinity and SEC purification
- Completed in 8 weeks





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