

CUSTOM PROTEIN & ANTIBODY EXPRESSION

The Protein Science team at ChemPartner has state of the art facilities, equipment, and technology for mammalian cell culture and transient expression to produce high-quality recombinant antibodies and proteins in HEK293 or CHO cells.

With a **cell culture capacity of >200 liters/week**, protein products (up to grams quantity) can be produced in a few weeks. We have built up more than 20 sets of purification units to support multi-step protein purification and can parallel process multiple protein/antibody production.

In the past 2 years, we have successfully completed over 200 protein expressions and purification projects for our international clients. Our team has delivered more than 1,000 recombinant proteins and antibodies in various scales.

Scheduled Experiments	Delivery	Timeline
Gene synthesis and vector construction	Technical Report	3-4 Weeks
Small scale expression and purification test	Technical Report	2 Weeks
Scale-up and QC (SDS-PAGE SEC) (Optional: LC-MS, RP-HPLC)	Technical Report and Final Report	4 Weeks

SAMPLE SUBMISSION

- Protein sequence or cloned vector

DELIVERABLES

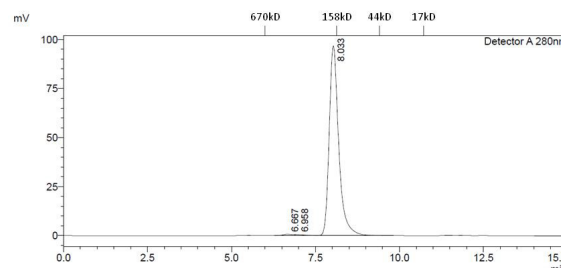
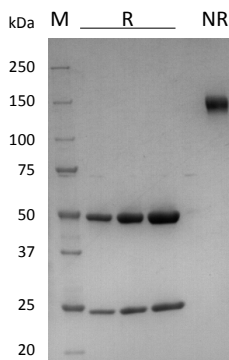
- Protein/ antibody with >95% purity
- Documented methods and testing conditions
- Quality control statement (SDS-PAGE, SEC); (Optional: LC-MS, RP-HPLC)

RELATED SERVICES

- Protein production in E. Coli system
- Protein production in Yeast system
- Protein production in Baculo=Virus system

Antibody Name	Isotype	Host Cel	Exp. Volume	Quantity	SEC-HPLC	Endotoxin
XXX	hIgG1	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 hIgG1 Ab recovered after affinity column followed by SEC, a yield of 100 mg/L
- Delivery of 2 g purified product in 8 weeks



<Peak Table>

Peak#	Ret. Time	Area	Area%	Height	Height%
1	6.667	14354	0.742	711	0.726
2	6.358	10831	0.560	351	0.562
3	8.033	1910440	98.699	96717	98.712
Total		1935625	100.000	97979	100.000

SEC-HPLC, TSK-GEL G3000SWXL

RECOMBINANT ANTIBODY EXPRESSION & PURIFICATION IN MAMMALIAN CELL SYSTEM

VECTOR DESIGN

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

PLASMID PREPARATION

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

PILOT-SCALE EXPRESSION

- Expression detection (100ml), choice of CHO cell or 293 cells
- Pilot-scale expression and purification, 100ml (0.5-5 mg)

LARGE-SCALE EXPRESSION AND PURIFICATION

- Large-scale transient transfection and expression, up to 100L
- Multi-step recombinant antibody purification

QUALITY CONTROL

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