

Protein Expression and Stable Cell Line



About Bio Bench

Bio Bench is a leading CRO (Contract Research Organization) company focusing on designed monoclonal antibody and functional protein services. By providing true partnership to the clients, Bio Bench has helped more than 60 research units for their unique R&D projects.

Boost your research by contacting: info@bio-bench.com.

Bio Bench Advantages

Experienced team members from Roche, Genscript, Charles River, Abbvie and Wuxi Apptec.

Automated platform together with cutting edge technology to improve efficiency and quality.

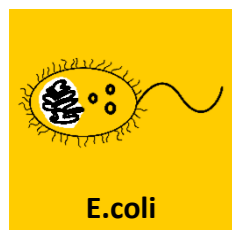
Professional project management, we understand your need.

AAALAC certified animal lab and GMP approved lab environment.

Bio Bench service unit

Gene Operation	Protein and Antigen	Antibody and Library	Antibody Engineering	Cell Assay	Animal Model
<ul style="list-style-type: none"> Gene synthesis and subcloning Fab-to-IgG rapid synthesis DNA phage library 	<ul style="list-style-type: none"> Lab scale to pilot scale protein production and purification E.Coli expression system HEK293 expression system CHO expression system High expression CHO system Membrane protein expression Protein tagging Peptide antigenic epitope 	<ul style="list-style-type: none"> Human naive antibody library and screening Human synthesis antibody library and screening Human disease antibody library and screening Llama antibody library and screening Hybridoma monoclonal antibody 	<ul style="list-style-type: none"> Antibody sequencing Affinity maturation Antibody humanization Fab/scFv antibody synthesis Bi-specific antibody 	<ul style="list-style-type: none"> ADCC/CDC Tumor microenvironment and regulation Cell proliferation and inhibition Apoptosis Receptor-ligand binding assay Immune cell activation assay Whole cell binding assay FACS/WB/IHC Antibody affinity assay Epitope mapping 	<ul style="list-style-type: none"> Myocardial Ischemia Diabetes Mellitus Rheumatoid Arthritis Focal Cerebral Ischemia and Cerebral Ischemia Polycystic Ovary Syndrome Nude Mouse Oncogenesis

E. Coli Expression System



E. coli expression system is the most widely used expression method. Advantages of E.coli expression system including: clear genetic background and metabolic pathway, mature method for expression regulation and time-saving cell culture.

Service highlight:

1. Up to 95% soluble protein expression.
2. Multiple choices for vectors, E.coli strains, tags and Restriction Enzyme cutting sites.

Vector bank for different target protein: pET series, pBAD series and pCold series.

Service and Time Line	Service Description	Deliverables	Price
P110100 Standard 23~26 days	1. Condon optimization and gene synthesis. 2. Subcloning and transformation. 3. Expression condition optimization. 4. High expression level monoclonal selection. 5. 100mL fermentation and protein purification.	<ul style="list-style-type: none"> • 1 clone. • 1 reconstructed plasmid. • 1mg~10mg purified protein. • Data and QC report. 	€1,199
P110201 Extra 1 clone 1 day	Extra 1 clone will be selected.	<ul style="list-style-type: none"> • 1 clone. • 1mg~10mg purified protein. • Data and QC report. 	€399
P110202 1L fermentation 3~5 days	1L fermentation and protein purification for 1 clone.	<ul style="list-style-type: none"> • 5mg-500mg protein. 	€899
P110203 5L fermentation 5~7 days	5L fermentation and protein purification for 1 clone.	<ul style="list-style-type: none"> • 50mg-2500mg protein. 	Inquiry
Optional Service			
<ol style="list-style-type: none"> 1. Tag remove 2. 10L~4000L fermentation 3. Inclusion body protein denaturing and renaturing 4. Western Blot for protein confirmation 5. Mass Spectrometry 			
More information: Please Email to info@bio-bench.com if you need special service for E. Coli Expression service.			

List of Vector	Commercial vectors, low temperature expression vectors.
List of Expression Strain	Special stains for your special protein: high expression strain, low temperature strain, toxic protein expression strain, Rare codons expression strain and disulfide bonds expression strain.

Bacillus Subtilis Expression System



Compare with E.coli expression system, Bacillus Subtilis has obvious advantages: low codon bias, high possibility to express proteins with high solubility and high bioactivity, no endotoxin in the purified protein.

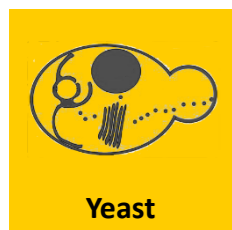
Service highlight:

1. Bio Bench provides vectors for either intracellular expression or secretory expression.
2. Improved transformation method guarantee a success rate of minimum 90%.
3. Up to 4000L fermentation system and downstream protein purification.

Service and Time Line	Service Description	Deliverables	Price
P110200 Standard 31~45 days	1. Condon optimization and gene synthesis. 2. Subcloning and transformation. 3. Expression condition optimization. 4. High expression level monoclonal selection. 5. 200mL fermentation and protein purification.	<ul style="list-style-type: none"> • 1 clone. • 1 reconstructed plasmid. • 1mg-10mg purified protein. • Data and QC report. 	€1,899
P110201 Extra 1 clone 1 day	Extra 1 clone will be selected.	<ul style="list-style-type: none"> • 1 clone. • 1mg-10mg purified protein. • Data and QC report. 	€399
P110202 1L fermentation 3~5 days	1L fermentation and protein purification for 1 clone.	<ul style="list-style-type: none"> • 5mg-500mg protein. 	€899
P110203 5L fermentation 5~7 days	5L fermentation and protein purification for 1 clone.	<ul style="list-style-type: none"> • 50mg-2500mg protein. 	Inquiry
Optional Service			
<ol style="list-style-type: none"> 1. Tag remove 2. 10L~4000L fermentation 3. Inclusion body protein denaturing and renaturing 4. Western Blot for protein confirmation 5. Mass Spectrometry 			
More information: Please Email to info@bio-bench.com if you need special service for Bacillus Subtilis Expression System.			

List of Vectors	Bio Bench qualified vectors for both secretory expression and intracellular expression.
List of Expression Strains	Bio Bench qualified strains for both secretory expression and intracellular expression.

Yeast Expression System



Yeast Expression System has the advantages of both prokaryotic system and eukaryotic system: simple gene operation, high quantity of yield and low project cost, fast cell culture, high level post-translational modification and folding. Bio bench provides *Saccharomyces cerevisiae* and/or *Pichia pastoris* as host yeast together with a series of vectors.

Service highlight:

1. High throughput platform for transformed yeast clones selection.
2. Multiple yeast expression vectors and strains meet different requirement.
3. Up to 200L fermentation system and downstream purification.

Service and Time Line	Service Description	Deliverables	Price
P110300 Standard 8~12 weeks	1. Condon optimization gene synthesis. 2. Subcloning and transformation. 3. High expression monoclonal selection. 2 clones will be selected for expression test. 4. 200mL fermentation and protein purification.	<ul style="list-style-type: none"> • 1 clone. • 1 reconstructed plasmid. • 1mg-10mg purified protein. • Data and QC report. 	€1,799
P110301 Extra 1 clone 1 day	Extra 1 clone will be selected.	<ul style="list-style-type: none"> • 1 clone. • 1mg-10mg purified protein. • Data and QC report. 	€399
P110302 Antibiotic pressure selection 2 weeks	A increasing series of antibiotic concentration will be applied to select the stable and resistance clone.		Inquiry
P110303 1L fermentation 2~3 weeks	1L fermentation and protein purification for 1 clone.	<ul style="list-style-type: none"> • 50mg-500mg protein. 	€1,099
Optional Service			
<ol style="list-style-type: none"> 1. Tag remove 2. 10L~4000L fermentation 3. Western Blot for protein confirmation 4. Mass Spectrometry 			
More information: Please Email to info@bio-bench.com if you need special service Yeast Expression System.			

List of Vector	pPIC9k, pPIC3.5, pPICZαA, pAO815, pYES2/NTA. Please inquire for the up-to-date list.
List of Expression Strain	GS115, KM71, X33, INVSC1. Please inquire for the up-to-date list.

Baculovirus-insect Expression System



Baculovirus expression system is widely used in protein production. Compare with mammalian expression system, baculovirus-insect Expression System has some unique advantages: higher expression level, simple clone selection and high level post translational modification.

Service highlight:

1. Team members have average 10 years' experience in Baculovirus-insect expression system, 99% success rate.
2. Multiple expression cell lines and vectors.
3. Up to 200L fermentation volume, possible reach 100g protein production.

Service and Time Line	Service Description	Deliverables	Price
P110400 Standard 7~10 weeks	1. Condon optimization and gene synthesis. 2. Subcloning. 3. P1 generation virus production and expression test. 4. P2 generation virus production and expression test. 5. 200mL expression and purification.	<ul style="list-style-type: none"> • 1 clone. • 1 reconstructed plasmid. • 0.5mg-3mg protein. • Data and QC report. 	€1,899
P110401 Extra 1 clone 1 day	Extra 1 clone will be selected.	<ul style="list-style-type: none"> • 1 clone. • 0.5mg-3mg protein. • Data and QC report. 	Inquiry
P110402 1L fermentation 1~2 weeks	1L fermentation and protein purification for 1 clone.	<ul style="list-style-type: none"> • 1mg~30mg protein. 	€1,899
Optional Service			
<ol style="list-style-type: none"> 1. Tag remove 2. 5L~200L fermentation 3. Western Blot for protein confirmation 4. Mass Spectrometry 			
More information: Please Email to info@bio-bench.com if you need special service for Baculovirus-insect Expression System.			

List of Vector	Commercial vectors and Bio Bench improved vectors. Please inquire for the up-to-date list.
List of Expression Strain	Sf9, Sf21, Hi5. Please inquire for the up-to-date list.

Mammalian Cell Expression System



Mammalian Cell Expression system is able to perform all of the post translational modifications to the protein. Therefore mammalian cell line is not only used for protein production, but also for immunogen, experiment material and down-stream validation.

Service highlight:

1. Team members have average 10 years' experience in mammalian expression system.
2. Up to 200L serum-free fermentation system.
3. 90% success rate for protein expression.

Service and Time Line	Service Description	Deliverables	Price
P110500 Standard Mammalian Transient cell line (HEK293 / CHO) 8~13 weeks	1. Condon optimization and gene synthesis. 2. Transfection and cell culture. 3. Expression test (plasmid extraction, transformation, SDS analysis, WB analysis, 80mL fermentation and purification) 4. QC and report	<ul style="list-style-type: none"> • Transient cell line. • 1 reconstructed plasmid. • 0.5-3mg protein. • QC and report. 	€2,888
P110501 Stable Cell line 30~40 day	1 stable expression cell line will be selected.	<ul style="list-style-type: none"> • Transient cell line. • 0.5-3mg protein. • QC and report. 	Inquiry
P110502 HEK293 1L fermentation 1~2 weeks	HEK293 cell line 1L fermentation and protein purification for 1 clone.	<ul style="list-style-type: none"> • 1mg~30mg protein. 	Inquiry
P110503 CHO 1L fermentation 1~2 weeks	CHO cell line 1L fermentation and protein purification for 1 clone.	<ul style="list-style-type: none"> • 1mg~30mg protein. 	Inquiry
Optional Service			
<ol style="list-style-type: none"> 1. Tag remove 2. 5L~200L fermentation, serum free 3. Western Blot for protein confirmation 4. Mass Spectrometry 			
More information: Please Email to info@bio-bench.com if you need special service for Mammalian Cell Expression System.			

List of Vector Commercial vectors and Bio Bench improved vectors. Please inquire for the up-to-date list.

List of Expression Strain CHO-K1, HEK293T. Please inquire for the up-to-date list.

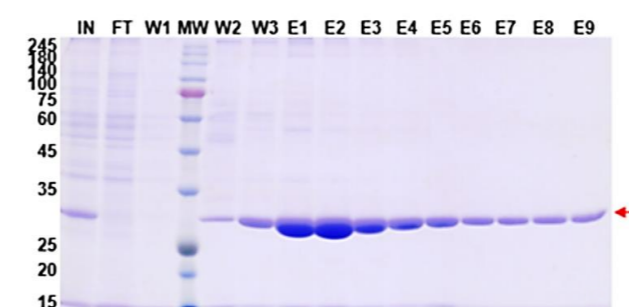
Monoclonal Antibody Production



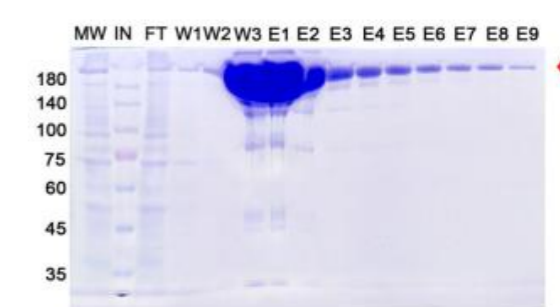
Hybridoma is fragile. In the process of monoclonal development, the clones may be in poor health condition which directly lead to low antibody expression level. During preservation or cell culture, hybridoma is highly possible to loss its antibody expressing ability. For patent protection reason, a clear sequence shall also be subjected.

Bio Bench provides a specialized service only for your precious hybridoma. The mAb cDNA will be sequenced and subcloned into pATX3.0 mammalian expression system. Then the plasmid will be transfected into expression cell line and up to 200-500mg/L antibody will be purified. Stable cell line service is also provided under researcher's demand.

Service and Time Line	Service Description	Deliverables	Price
P110504 Monoclonal Antibody Sequencing and Stable Cell Line	<ol style="list-style-type: none"> 1. Light chain and heavy chain cDNA and sequencing. 2. Bio informatics analysis for the sequence. 3. Subclone into pATX3.0 vector and plasmid amplification. 4. Transient cell line and antibody production, purification. 5. Stable cell line and antibody production, purification. 	<ul style="list-style-type: none"> • 1mg~30mg protein. • Plasmid with heavy chain and light chain gene. • Cell line. 	Inquiry
More information: Please Email to info@bio-bench.com if you need special service.			



Antibody: scFv fragment
 Expression system: B.subtilis
 37mg scFv obtained from 1L cell culture, purity>90%.



Antibody: IgG antibody
 Expression System: Mammalian CHO-S
 104mg antibody obtained from 1L cell culture, purity>90%.