

Pathways to Productivity



The Leading Gene Through Screen CRO



Molecular Biology ~ Cell Culture and Scale-Up ~ Protein Sciences ~ Assay Services

Quality. Speed.



Molecular Biology Services

Molecular Biology drives modern drug discovery. Drug screening, target validation and structural biology processes frequently require recombinant DNA reagents as a starting material.

Although most molecular biology techniques are extremely common and widely used they can also be time-consuming and laborious. Moreover, the equipment, labor and facility investments necessary to perform these activities are difficult to justify; cost-effective molecular biology services are readily available in the CRO market.

It is simply more efficient and economical to outsource these activities. Blue Sky BioServices (BSB) has a team of highly-trained experts available to deliver quality molecular biology reagents at a fair price. BSB will support your molecular biology demands. Our Fee-For-Service model starts with the initial cloning of your gene(s) of interest, a flexible process that can accommodate multiparallel projects (many constructs in parallel). This comprehensive suite includes (but is not limited to) standard PCR-based cloning, mutagenesis, construct sequence validation, and our popular rapid bulk plasmid preparation (TeraPrep™). BSB leads the industry in customer service excellence. We rank at the top in client surveys for **VALUE attributes: Quality, Speed, Communication, and Trust** at an affordable Price!

TeraPrep™ - Reliable Transfection-Grade Plasmid Preps

- 1 mg to 1 GRAM!
- 3-6 Day Turnaround
- High Throughput Multiparallel Capacity
- Premium Transfection Grade Plasmid



Gene Synthesis

- Multiparallel Gene Synthesis with Fast Turnaround Time!

Antibody Sequencing & Cloning

- The Fastest Turnaround of High Quality Antibody Services that Fit Your Budget!
- Cloning of Heavy and Light Chain Variable Regions or Full-length Antibodies, Co-expression, Purification and Validation of Antigen Binding by ELISA

In addition to these popular services, Blue Sky can assist you with these custom services:

DNA

- Vector Construction
- Multiparallel Gene Through Protein Services

RNA

- qPCR and RT-PCR
- *In Vitro*: Transcription and Translation

Viral Preps

- Baculovirus
- BacMam

For more information about services not listed, please contact us to find out what Blue Sky can do for you.

dna@blueskybiotech.com

Quality. Speed.

Cell Culture and Scale-Up Protein Expression Services

300 L Capacity. Mammalian & Insect Experts.

Research-based drug discovery increasingly relies on protein/antibody production using mammalian host cell lines. In particular demand has grown for fast turnaround large scale mammalian suspension cell expression. Blue Sky offers its clients distinctly efficient research-scale (up to 300 L) mammalian cell expression services.

Blue Sky is widely recognized for its pioneering technologies and leadership in baculovirus production, baculovirus amplification, and bioreactor-scale protein expression. The Insect Expression Team has invested > 2Million USD in technology improvements of the baculovirus production and expression process. Blue Sky's industry-leading baculoviral [insect cell recombinant protein expression] service utilizes Infection Kinetics Monitoring® [IKM], a proprietary process technology that significantly improves turnaround time and reproducibility in tandem with TIPS/BIIC technology.

100 L Turnaround Time in <12 business days!

ikm[®]
Infection Kinetics Monitoring



Bacterial, Insect, and Mammalian Scale-Up Services

- Up to 300 L
- Aggressive Timelines at Low Prices!

Antibody Development and Production Services

- Antigen Creation
- Transient and Stable Expression of Recombinant Antibodies
- Hybridomas Adaptation Scale-Up
- ELISA

In addition to these popular services, Blue Sky can assist you with these custom services:

Insect [BEVS] Expression

- Rapid Hi Titer Baculovirus Stock Preparation, with SDS-PAGE/Western Blot Qualitative QC
- Expression Optimization, 24-96 Data Points on SDS-PAGE/Western Blot
- Co-inventors of TIPS/BIIC BEVS Technology and Now Offering BIIC Stock Production and Storage Services

Bacterial Expression

- Expression Optimization, 24-96 Data Points on SDS-PAGE/Western Blot
- Metabolic Labeling (*In Vivo*)

Yeast Expression

- Strain Creation and Optimization
- Intracellular and Secreted Products

Mammalian Expression

- Experience with an Extensive List of Cell Lines
- Optimization of Expression in Bioreactors
- Flask Scale and Cell Stack Adherent Options
- **EVA™** (**EV**olution **A**ccelerated) Rapid Processes for Adaptation to Suspension and Media Adaptation
- Intracellular and Secreted Products
- Stable Cell Line Development, Adherent and Suspension, Pools and Clones
- Membrane Preparation
- Functional Testing/Viability/Reporter Assay
- Virus Preparation and Transfection
- BacMam-Mediated Protein Expression
- Lentiviral-Mediated Expression

For more information about services not listed, please contact us to find out what Blue Sky can do for you.

expression@blueskybiotech.com

Meet all of Your Scale-Up Needs with one Partner!

Quality. Speed.



Protein Science Services

Proteins are indispensable in the early stages of drug discovery; purified proteins are used for target validation, enzyme characterization, high-throughput screening (HTS) and structural studies. In order to study proteins *in vitro*, researchers need active protein, free of impurities that can potentially interfere with mechanistic studies. Blue Sky's Protein Science Facility understands that drug discovery is catalyzed by pure, active enzymes that yield clean signals and reproducible results.

Our Protein Lab is comprised of highly skilled biochemists with many years of hands-on experience in protein purification and characterization. Our core expertise in purification techniques, project management and data analysis provides the perfect CRO platform for high quality protein production. We specialize in custom enrichment/purification method development [SCOPE™ services] or rapid adaptation of a purification protocol optimized in our client's lab. Blue Sky has also optimized a service for endotoxin removal/reduction and will also test preparations for endotoxin levels [De-Tox™ services]. We deliver insightful data and quality protein with world-class turnaround times to our clients.



De-Tox™

reform™
the protein refolding initiative

SCOPE™

Bulk Resupply and Antibody Production

- Providing the Fastest Turnaround and Highest Level of Quality for Gram Levels of Resupply and Antibody Production!

Multiparallel Enrichments and Method Scouting [SCOPE™]

- Industry Leading Experts in Protein Enrichment and Purification!
 - Single Host Strain (Bacterial, Yeast, Insect, Mammalian)
 - 12-Point Data Package to Assess Expression and Enrichment

In addition to these popular services, Blue Sky can assist you with these custom services:

Milligram to Gram Levels of Protein Supply!

- Custom Protein Purification
- Inclusion Body/Refold Protocols
- Membrane Preparations
- Microsome Preparations
- Virus-Like Particles [VLPs]
- Isoelectric Focusing
- Subcellular Fractionation
- Protein-Protein Interaction Studies
- Endotoxin Testing and Removal (De-tox™)

Our laboratories support our clients through investment in quality

- [ÄKTA] FPLCs for Chromatography
 - Affinity
 - Ion Exchange
 - Hydrophobic Interaction
 - Preparative and Analytical Size Exclusion
- Large Volume Precision Cell Disruption/Lysis
- Low and High Speed Centrifugation
- Ultracentrifugation/Fractionation
- Tangential Flow Filtration
- PAGE, Western Blot, Capillary Electrophoresis [CE]

For more information such as services not listed, please contact us to find out what Blue Sky BioServices can do for you.

proteins@blueskybiotech.com

Quality. Speed.

Assay Services

The Assay Services Lab at Blue Sky has extensive experience with assay development, high throughput screening (HTS), high content screening (HCS), and data analysis. We will perform routine and custom biochemical and cell-based assays using a wide range of readouts, including radiometric, with a state-of-the-art compound management and data analysis platform.

- **Biochemical Assays**
- **Cell-based Assays**
- **Compound Screening**



Radiometric Assays

- Blue Sky Bioservices has a Dedicated Radioactive Lab! We have the Expertise and Facilities to Assist You with:
 - Radioligand Binding Assay
 - Radiometric Filter Binding Assay
 - SPA Based Assay
 - Autoradiography
 - Specific Activity Assay

Immunoassays

- ELISA Development or Other Antibody-based Assay Formats

High Content Screening

- Expertise in Imaging Assays, Including Differentiation, Intracellular Trafficking, and Others

In addition to these popular services, Blue Sky can assist you with these custom services:

Biochemical Assays

- Radiometric
- Fluorescence & Luminescence
- TDA Screening Platform
- Immunoassays (ELISA)

Cell-based Assays

- Reporter Gene
- High Content Screening
- Phenotypic Drug Discovery
- Proliferation and Viability Readout

Compound Screening

- HTS & HCS
- IC50 & EC50 Determination
- Selectivity and SAR Profiling

Compound Libraries

- Blue Sky's Compound Libraries
- Client's Compound Library

Target Classes Include

- Membrane Receptors, Membrane-Associated Proteins, Kinases, Phosphatases, GPCRs, Proteases, GTP-ases, Epigenetic Targets, PDEs and other Druggable Targets

Our team of scientists will collaboratively develop an assay to meet your requirements, including custom protein production and field application service in your laboratory, for maximum flexibility.

assays@blueskybiotech.com

Game Changing Technology



Better leads with TDA 2.0™

Current drug discovery approaches for membrane-associated targets are often ineffective for at least two reasons. First, the biological context, structure and organization defined by a membrane are ignored, yet these properties are critical for relevant pharmacology. Second, while cell-based assays preserve membrane context, they are frequently too cumbersome, time-consuming and costly for discovery programs.

TDA 2.0™ solves these problems!

TDA 2.0™ is designed to confer proper pharmacology by restoring membrane architecture in a rapid, chemically-defined assay. TDA 2.0™ delivers the speed of a biochemical assay with the quality and complexity of a cell-based assay, allowing identification of therapeutically-relevant lead compounds.

Blue Sky BioServices offers custom assay development and screening services using TDA 2.0™ technology.



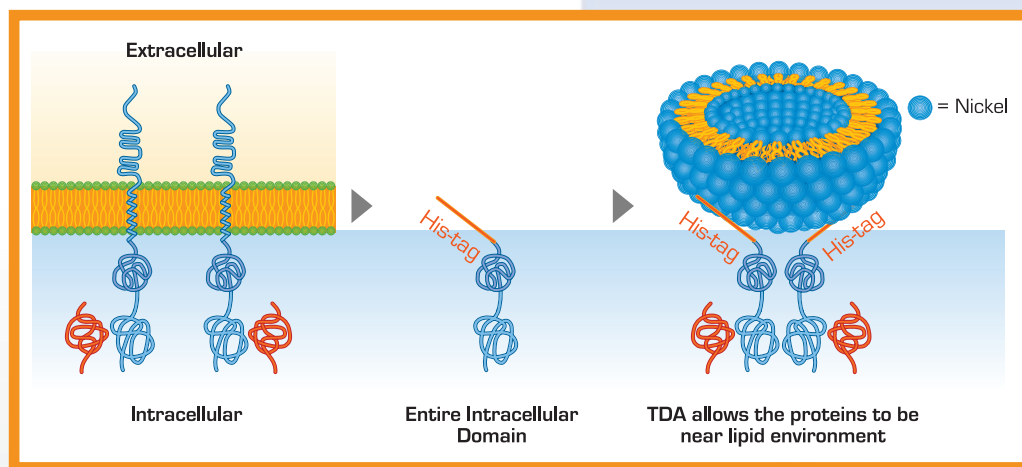
TDA assay services:

- Consultation
- Target evaluation
- Custom reagent design, development and production
- Substrate identification and production
- Assay optimization and validation
- Compound screening and characterization
- Data analysis
- Secondary screening and SAR
- Study report

Contact us now! TDA@blueskybiotech.com

Selected benefits of TDA™ technology:

- Improved enzymatic properties
- Assembly of multimeric complexes
- Activation of signaling pathways
- Recruitment of accessory proteins
- Restored substrate recognition and biochemistry



Better leads with TDA 2.0™

TDA2.0™ is a game-changing technology for membrane-associated drug targets that enables development of more physiologically-relevant assays than traditional biochemical methods. Assays created using TDA exhibit biochemical and pharmacological profiles that more accurately replicate *in vivo* activity. Therefore, drug discovery programs utilizing TDA for membrane-associated therapeutic targets will identify molecules with better efficacy in *in vitro* and *in vivo* models and ultimately enable the development of better drugs. Blue Sky Bioservices owns exclusive rights to TDA technology for drug discovery applications.

TDA technology covered under US 7678540 and US 8268965 patents. Other US and foreign patents pending. Please contact Blue Sky BioServices for licensing terms and conditions.

TDA 2.0

**Blue Sky provides a faster path to productivity.
Make More Time. Relieve Bottlenecks. Focus On Innovation.**

Blue Sky BioServices is the leading Contract Research Organization (CRO) providing Gene Through Screen services in the Biotechnology R&D market. Our clients enhance the quality and speed of their research by enlisting Blue Sky's premium services such as vector/gene construction, recombinant protein expression, laboratory-scale fermentation (scale-up bioprocessing), protein purification, assay development, and assay execution (screening).

Blue Sky is not your average CRO and invests heavily in experienced people, leading edge technology, and state-of-the-art laboratory facilities. This investment in service platforms and scientists sets Blue Sky apart from other CROs and transforms the company into a center of excellence with unmatched quality and turnaround times.

Our suite of services is our client's Pathway to Productivity. We are motivated by our ability to impact the overall efficiency of the drug discovery process and thus contributing to a longer, healthier lifespan for human beings.



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