

# Custom Services

# InnoC<sub>Y</sub>to

*Precision Custom Biomolecules*

*Tailored Assay & Conjugation Solutions*

## WHY INNOCYTO FOR CUSTOM?

InnoCyto partners with scientific teams seeking bespoke biomolecular solutions that go beyond off-the-shelf reagents. By combining deep technical expertise with robust engineering platforms, we help scientists solve complex biological problems across research, diagnostics, and preclinical development. We empower innovation in immunology, oncology, cell biology, and beyond through high-quality, reproducible reagents and tailored services that align with your project needs.

## ACCELERATING DISCOVERY THROUGH CUSTOM SOLUTIONS

Standard reagents can limit experimentation. When your research demands solutions beyond catalog reagents:

- Unique targets
- Hard-to-express proteins
- Optimized antibody affinity & specificity
- Tailor-made functional assays

InnoCyto custom solutions deliver reliability, performance, and confidence in your data.



## OUR CAPABILITIES



### Recombinant Protein Development

Expression and purification of biofunctional proteins with precise structure and consistent activity.



### Conjugation Services

High-quality labeling and conjugation to enhance detection, targeting, or assay performance.



### Custom Antibody Generation

Recombinant monoclonal antibodies engineered for superior specificity and affinity with minimal non-specific binding.



### Cell-Based Assay Development

Cell line development (KO/KD, gene editing, overexpression, etc.), cytotoxicity, proliferation, and much more.

Learn more at: [www.innocyto.com/web/services.php](http://www.innocyto.com/web/services.php)

[www.innocyto.com](http://www.innocyto.com)

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[info@innocyto.com](mailto:info@innocyto.com)

Catalyzing Discovery with  
Trusted Reagents for Cell-  
Based Research

# Custom Protein & Antibody Development

## RECOMBINANT PROTEINS

InnoCyto's protein services are built to support complex projects with high-precision design and scalable production.

Our capabilities Include:

- Tailored design & genetic engineering
- Codon optimization & vector selection
- Host expression in bacterial, insect, or mammalian systems
- Multi-step purification preserving biological function
- Comprehensive QC (SDS-PAGE, functional assays, SEC)
- Delivery with traceable documentation and support

- ✓ Flexible scales – from milligrams to grams
- ✓ Proven success across hundreds of projects

Ideal for:

**Novel ligands & receptors**  
Suitable for studying new interactions.



**Cytokines & growth factors**  
Useful in cell communication research.



**Fusion proteins & multi-domain constructs**  
Applicable in protein engineering and design.



**Reagents for CAR-T or cell signaling studies**  
Valuable tools in immunotherapy and cell biology.



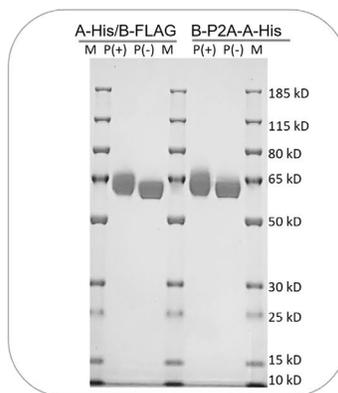
## Case Study: Heterodimer Recombinant Protein Development

Heterodimer protein production is challenging due to low yield and poor purity. In this case, we used two distinct protein tags to enhance purification, and employed a 2A peptide to regulate the  $\alpha/\beta$  heterodimer ratio.

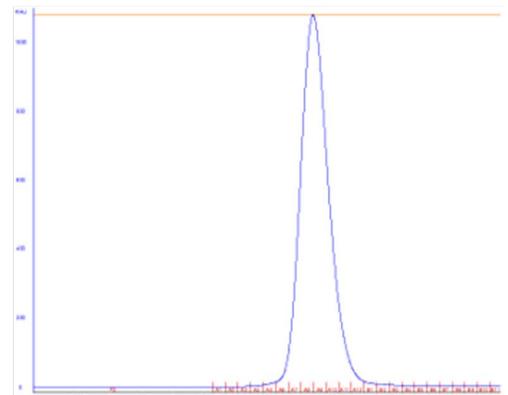
Design and Output

Target	$\alpha/\beta$ heterodimer	
Constructs	$\beta$ -P2A- $\alpha$ -His	$\alpha$ -His+ $\beta$ -FLAG
Formulation	1xPBS, pH7.4	
Purity by SEC-HPLC	> 95.0%	
Purity by SDS-PAGE	> 95.0%	
Biotinylation by gel shift assay	> 80.0%	

Purity by SDS-PAGE



Purity by SEC-HPLC



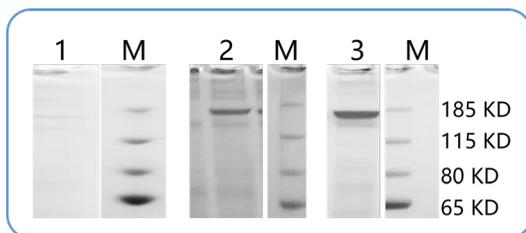
# NEXT-GENERATION RECOMBINANT ANTIBODIES

Traditional hybridoma methods may produce variability and limited specificity. InnoCyto uses advanced platforms to engineer antibodies with high affinity and low off-target binding, ideal for sensitive applications such as flow cytometry, immunoassays, and imaging.

## Key Features:

- High purity - high reproducibility
- Extensive customization options
- Fc region optimization
- High yield engineering
- Direct conjugates available

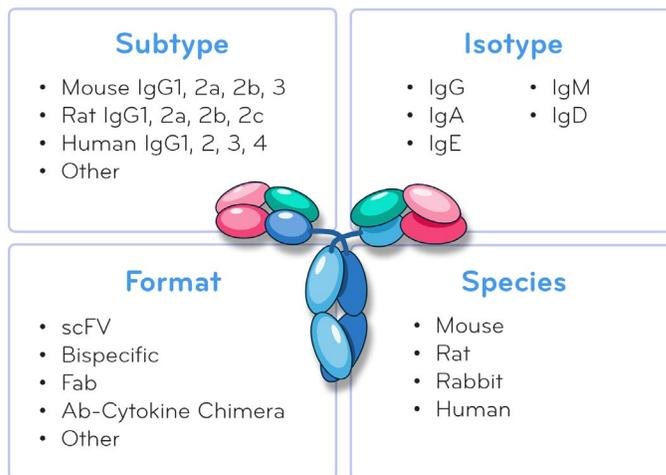
Optimized processes increase yield by 80-fold over standard protocols



Day 3 cell culture supernatant of anti-HLA-G antibody

- |                                      |           |
|--------------------------------------|-----------|
| 1. Standard protocol                 | 1.45 mg/L |
| 2. Optimize feeding and transfection | 20 mg/L   |
| 3. Antibody engineering              | 120 mg/L  |

## Antibody Customization Options



## Custom Conjugation Services

Transform biomolecules into high-performing research tools with tailored conjugations that elevate detection and functionality. Optimized labeling improves signal clarity, assay sensitivity, and data consistency, especially in multiplexed flow cytometry and high-content assays.

### Our Conjugation Capabilities

#### Conjugates Available

- Fluorophores
- Oligonucleotides
- Biotin & Streptavidin
- Horseradish Peroxidase (HRP)
- Particle Beads
- Dual Labels (Fluorophore + Oligonucleotide)



#### Compatible Targets

- Antibodies
- Proteins
- Peptides

### Available Fluorophores

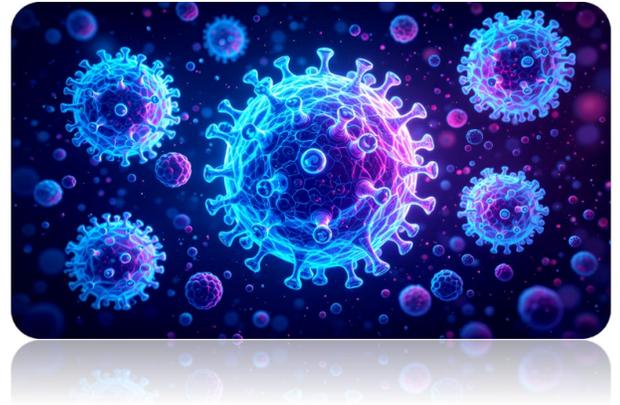
FITC	PE
iF405	PE/Cy5.5
iF488	PE/Cy7
iF546	PE/iF594
iF560	APC
iF594	APC/Cy5.5
iF610	APC/Cy7
iF647	PerCP
iF700	PerCP/Cy5.5
Pacific Blue	PerCP/Cy7

# Cell-Based Assay Development

InnoCyto supports functional validation and phenotypic assays, customizing cellular models and readouts to suit your biological questions. Our capabilities enable precise interrogation of cellular responses in immunology and oncology workflows.

## Services include:

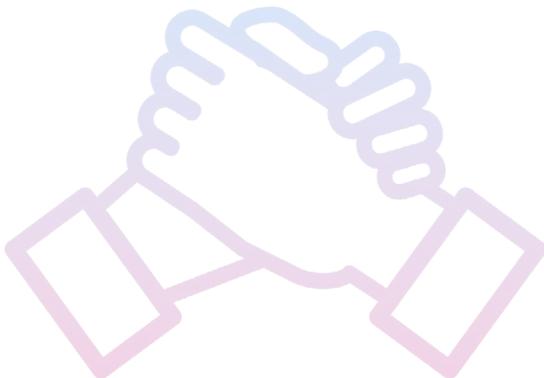
- Cell line engineering (KO/KD, overexpression, reporter systems)
- Cytotoxicity & proliferation assays
- Functional potency assays
- Tailored assay formats for screening or target validation



## OUR PROVEN WORKFLOW

- 1 Consultation & Design**  
Define objectives, feasibility, and specifications collaboratively.
- 2 Development & Expression**  
Construct design and optimized expression strategies.
- 3 Purification & Characterization**  
Rigorous QC ensures product performance and reproducibility.
- 4 Delivery & Support**  
Complete data packages and responsive technical support accompany every project.

## PARTNER WITH INNOCYTO



Whether you're seeking novel reagents, establishing new functional assays, or tailoring complex cell analysis panels, InnoCyto's scientific team is ready to enable your next breakthrough.

Contact us to get started:

[www.innocyto.com/web/support/request-quote.php](http://www.innocyto.com/web/support/request-quote.php)

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