Light Path™ Custom Material Supply
Mammalian and Microbial Custom Services for Protein Production
Take the Light Path™ when focused on IND/IMPD filing.
The Path to Successful Therapeutic Discovery and Development

At Lonza, we understand the challenges facing biotherapeutic and vaccine manufacturers related to the time and costs inherent in the drug discovery and development process. Light Path™ Custom Material Supply Services are efficient, focused technology and production offerings for the Preclinical and Phase I stages of novel biologics development.

- Benefit from access to Lonza's proven expression technology platforms allowing streamlined production of your protein
- Complete gene to non-GMP or cGMP production service offerings for both mammalian and microbial expressed proteins
- Generate material for use in Developability Assessment, including Epibase™ In Vitro Immunogenicity Screening
- Ability to partner with Lonza early, taking advantage of years of scale-up and commercial manufacturing experience

Light Path™ Host Screening Services

Rapid Host Screening is a customized service to accelerate the selection of the optimal expression host system for your protein of interest. Lonza's mammalian (GS CHO) and microbial (E. coli) expression platforms can be quickly assessed and compared for productivity. This service provides access to our industry leading GS Xceed™ Mammalian and XS™ Microbial Expression Systems license-free at a Lonza facility. It also facilitates the ability to screen and rank multiple product candidate sequences, allowing you to optimize your investment right from the beginning.

Light Path™ Host Screening Services enable you to make an informed decision regarding which expression system is best suited for your protein production in terms of product yield. In addition, you will gain future cost advantages with the evaluation of product expression in production-ready cell lines.

Following host screening, you have the option to shorten your drug discovery timeline by moving directly into Lonza's Light Path™ Discovery Custom Material Supply Service for the production of small scale, non-GMP batches of candidate proteins.
Light Path™ Discovery Production Services

Light Path™ Discovery Custom Material Supply is Lonza’s streamlined manufacturing service for the production of small scale, non-GMP material for your discovery through early development stage needs.

Mammalian Light Path™ Discovery Services

Mammalian Light Path™ Discovery Services offer access to Lonza’s industry leading GS Xceed™ Gene Expression System for the small scale, rapid, non-GMP production of therapeutic recombinant proteins and monoclonal antibodies.

The GS Xceed™ Platform includes improved host cell line and vectors, optimized media, and a robust development process. Our GS technical specialists have developed this process with your future scale-up needs in mind.

In a custom-tailored process for Light Path™ Discovery, transient and stable pooled transfection platforms are used to generate non-GMP product (or clarified supernatant) in the range of 10–500 mg.

Mammalian Discovery Offering Includes:
- Expression: Research access to GS Xceed™ System with no license fee while work is performed at Lonza
- Host Cell Line: CHO
- Purification: Protein A or G to purify antibodies, affinity or other options available
- Product Assessment: SDS-PAGE, HPLC, Western Blot, and Endotoxin, as applicable
- Timeline: 4–12 weeks post gene synthesis

Microbial Light Path™ Discovery

Microbial Light Path™ Discovery Services offer non-GMP expression using Lonza’s XS™ Microbial Expression Technology Platform. Sugar inducible E. coli expression and small scale production of recombinant proteins and antibody fragments, allow you to begin early material testing of your lead molecule.

The XS™ Platform provides tightly regulated, controlled, and tunable expression that enables high titers and maximizes soluble product. This proven technology has been shown successfully to express many types of proteins, most notably, difficult-to-express proteins.

The streamlined XS™ System for Light Path™ Discovery includes induction by either rhamnose or melibiose and provides product in the range of 10–250 mg.

Microbial Discovery Offering Includes:
- Expression: Research access to XS™ System with no license fee while work is performed at Lonza
- Host Strain: Sugar inducible E. coli
- Expression of tagged or untagged native proteins
- Purification: Affinity chromatography to purify tagged proteins
- Product Assessment: SDS-PAGE, SE-HPLC and Western Blot, as applicable
- Timeline: 4–12 weeks post gene synthesis

Mammalian and Microbial Light Path™ Discovery Production Services can provide you with sufficient material to facilitate the selection and ranking of lead candidates from discovery phase manufacturability and safety assessments through to preliminary in vivo functional studies.

High Productivity of GS Xceed™ System

Productivity in 10 L bioreactors using the chemically defined, animal component-free v8 GS-CHO Commercial Platform Process for Lonza’s model antibody cB72.3.

High Productivity of XS™ Sugar Inducible Systems

Fed-batch fermentation of a melibiose-induced XS™ strain that produced an intracellular target protein reaching a maximum titer of 12.5 g/L.
Light Path™ Development Production Services

Cell Line to cGMP in 9 to 11 Months
Moving out of the drug discovery phase and into clinical development requires an increase in the required quantity and quality (cGMP) of your product. Light Path™ Mammalian and Microbial Development Production Services enable you to continue with Lonza for cGMP manufacture of product for your preclinical through IND/IMPD material needs.

Mammalian Development Offering Includes:
- Optional non-cGMP pilot run
- cGMP scale-up options from 200 L to 1000 L
- Research access to GS Xceed™ System with no license fee while work is performed at Lonza

Microbial Development Offering Includes:
- Option to use XS™ Technologies or client-provided strain
- Optional non-cGMP pilot run
- cGMP scale-up options from 20 L to 70 L
- Multiple site manufacturing options
- Research access to XS™ System with no license fee while work is performed at Lonza

Get to the Clinic Faster
Light Path™ Custom Material Supply Services allow you to leverage Lonza’s mammalian and microbial expression technology platforms in our development laboratories, without the extra cost of research license fees. Our expertise will help you meet your discovery and development needs in a lean, cost-effective and timely manner.

Partner with Lonza early to benefit from industry-accepted expression platforms that have met with consistent regulatory approval. Our know-how and experience with protein production will help streamline your future scale-up processes.

Lonza’s Light Path™ Custom Material Supply Services can meet all of your discovery and development needs, and help you get to the clinic faster.

Production Services for Candidate Biologicals
- Antibodies and Antibody Fragments
- Cytokines and Growth Factors
- Novel Protein and Peptide Therapeutics
- Vaccines

The focused offerings of the Light Path™ Custom Material Supply Services can help reduce the time to IND/IMPD filings.
The Light Path™ Commitment

Our goal at Lonza is to help you be successful in bringing your biological candidates through the discovery and development process. The Light Path™ Services were developed to provide access to our proven technology platforms in order to quickly manufacture material for Preclinical and Phase I activities such as in vitro manufacturability, safety, and efficacy testing.

Our greatest asset is our people. Our experienced and dedicated technical staff will meet with you, and together we will design the best Light Path™ program to bring you success. We are committed to being your partner now and for future long-term, commercial agreements.

Partnering with Lonza allows you to take advantage of our extensive experience in developing hundreds of molecules. You lower your risk, remain flexible and stay focused.