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Lonza Announces the Availability of Its XS Microbial Expression Technology™ Portfolio to Customers Worldwide Under a Research Evaluation Agreement

- **The new licensable XS Technology™ Portfolio includes licensing options for both *E. coli* and *P. pastoris (Pichia)* expression systems and platform fermentation protocols**
- **Platform fermentation protocols are tailored to each XS™ Host System to build the foundation of high-yielding, robust and scalable processes for ease of future scale-up and production**
- **Multiple XS™ host and promoter combinations provide hundreds of options for optimal expression of most types of microbial products**

Basel, Switzerland, 5 November 2013 - Based on the clinical and commercial success of Lonza's Mammalian GS Gene Expression System™ licensing program, Lonza now offers their XS Microbial Expression Technologies™ to customers under a Research Evaluation Agreement. The new XS™ research license allows customers to use Lonza's microbial expression hosts and vectors in their own development laboratories. The offering includes licensing options for both *E. coli* and *P. pastoris (Pichia)* host systems, along with detailed fed-batch fermentation protocols designed to quickly create commercially-viable production strains and GMP processes. XS™ Systems have been shown to deliver high titers with expression levels in excess of 20 g/L. For difficult-to-express proteins, expression levels of up to 1 g/L have been achieved, where alternatives were only achieving a few milligrams per liter.

Our customers have achieved great success with our current research licensing programs, said Karen Fallen, Vice President Head of Licensing, Lonza Custom Development Services. "By expanding Lonza's research license offering to include our XS™ Microbial System, customers will have the opportunity to select the optimal expression platform for their product of interest. The research evaluation agreement is designed to be a comprehensive package that includes prepared protocols and access to Lonza's industry expression experts allowing customers to streamline their early stages of development."

The licensable XS Technology™ Platform consists of multiple hosts and promoter systems that have been optimized for soluble expression driving simpler recovery and downstream processing, which saves development time and costs. Each kit contains the key components

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necessary to identify the best production clone for your product. Under the new research evaluation agreement, customers will have access to the following XS Technologies™:

- XS™ Sugar Inducible *E. coli* System
- XS™ IPTG Inducible *E. coli* System
- XS™ GAP Constitutive *Pichia* System
- XS™ Methanol Inducible *Pichia* System
- XS™ Glucose Regulated *Pichia* System

Host kits include 7 different *E.coli* strains and 6 *E.coli* plasmids; 1 *Pichia* strain and 6 *Pichia* plasmids. The extent of portfolio availability varies by country.

In addition, Lonza customers will have numerous options for additional technical support including: notification of system upgrades, visits to customer sites as part of XS Technology™ Tours, and access to technical experts by phone or e-mail. Before filing an IND, an XS™ Commercial License may be obtained to cover the clinical development and commercial stages for the candidate drug or vaccine.

For more information on Lonza's XS Technology Platforms, please visit www.lonza.com/xs.

About Lonza

Lonza is one of the world's leading suppliers to the pharmaceutical, healthcare and life science industries. Products and services span its customers' needs from research to final product manufacture. It is the global leader in the production and support of chemical and biological active pharmaceutical ingredients. Biopharmaceuticals are one of the key growth drivers of the pharmaceutical and biotechnology industries. Lonza has strong capabilities in large and small molecules, peptides, amino acids and niche bioproducts which play an important role in the development of novel medicines and healthcare products. Lonza is also the world leader in microbial control providing innovative, chemistry-based and related solutions to destroy or to selectively inhibit the growth of harmful microorganisms. Its activities encompass the areas of water treatment, personal care, health and hygiene, industrial preservation, materials protection, and wood treatment. In addition, Lonza is a leader in cell-based research, endotoxin

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detection and cell therapy manufacturing. Furthermore, the company is a leading provider of value chemical and biotech ingredients to the nutrition and agro markets.

Lonza is headquartered in Basel, Switzerland and is listed on the SIX Swiss Exchange and secondary listed on the Singapore Exchange Securities Trading Limited ("SGX-ST"). In 2012, the company had sales of CHF 3.925 billion. Further information can be found at www.lonza.com.

Further Information

Lonza Group Ltd
VP, Licensing and Technology
Custom Development Services
Karen Fallen
Tel +44 1753 716585
Karen.fallen@lonza.com

Lonza Group Ltd
Microbial Business Development
Custom Development Services
Ryan Scanlon
Tel +1 201 316 9383
ryan.scanlon@lonza.com

Lonza Group Ltd
Media Relations
Melanie Disa
Tel +1 201 316 9413
Fax +1 201 696 3533
melanie.disa@lonza.com