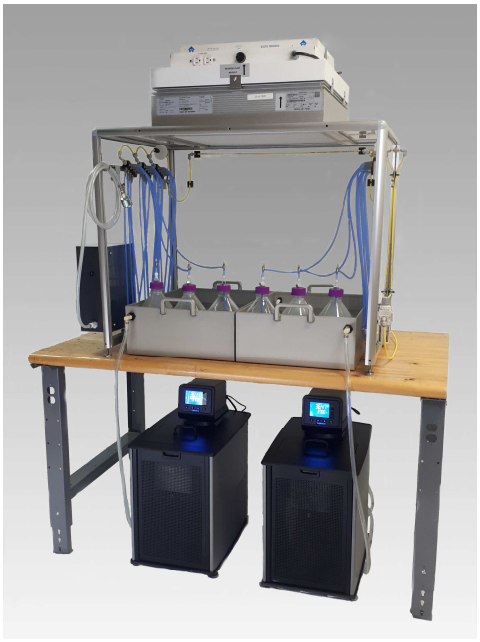
LEX Bioreactors

Parallel bioreactors for high-throughput growth

LEX-10

LEX-24



LEX-48

Accelerate protein production with LEX.

Epiphyte3's LEX ("Large-scale Expression") bioreactor technology was developed at the Structural Genomics Consortium as an efficient, high-throughput method for growing E. coli cultures for recombinant protein expression.

With the capacity to grow up to 40 x 1-liter (or 24 x 2-liter) cultures in 46" of lab bench space, our LEX bioreactor products are ideal for research labs and core facilities that want to avoid cumbersome shaking incubators and flasks.

LEX bioreactor models sized for every lab.

Whether you're a large high-throughput core facility with existing shake flask infrastructure or a small lab just starting out, there's a LEX bioreactor for you.

LEX bioreactors are available in three models. Using either 2-liter or 1-liter bottles, you can grow a single culture up to 40 cultures in parallel.

HOW IT WORKS

Cultures are grown in industry standard GL45 media bottles.

Shake flasks are bulky and not efficient for high-throughput use. Our LEX bioreactors use compact glass media bottles, improving experiment workflow and making it easier for your lab to grow your cell cultures with minimal effort.

Direct aeration and mixing.

LEX directs filtered, compressed air through our unique *spargers* to provide aeration and mixing without a shaking platform.

Temperature control.

LEX culture bottles are immersed in a digital temperature controlled water bath to maintain optimal growth conditions.

LEX Bioreactors

Shaking incubators are a bottleneck.

- LEX bioreactors use **50%** less lab space than a comparable shaking incubator solution.
- LEX bioreactors reduce labor requirements by up to **50%** through optimized workflows.
- LEX media bottles have *a* **75%** smaller footprint compared to shake flasks.

LEX-Optimized Workflow

It's the small things that make a difference. Epiphyte3's LEX bioreactors were designed around a high-throughput workflow. Whether you are expressing a single E. coli culture or 40 cultures at a time, LEX reduces the work necessary before, during, and after your experiments - saving you precious time.

SELECTED PUBLICATIONS

1. Miethe S, Meyer T, Wöhl-Bruhn S, Frenzel A, Schirrmann T, Dübel S, Hust M. 2012. Production of single chain fragment variable (scFv) antibodies in *Escherichia coli* using the LEX™ bioreactor. J Biotechnology. 163(2): 105-111.
2. Dufe VT, Qiu W, Müller IB, Hui R, Walter RD, Al-Karadaghi S. 2007. Crystal structure of Plasmodium falciparum spermidine synthase in complex with the substrate decarboxylated S-adenosylmethionine and the potent inhibitors 4MCHA and AdoDATO. J Mol Biol. 12;373 (1):167-77.
3. Gräslund S, Sagemark J, Berglund H, Dahlgren LG, Flores A, Hammarström M, Johansson I, Kotenyova T, Nilsson M, Nordlund P, et al. 2007. The use of systematic N- and C-terminal deletions to promote production and structural studies of recombinant proteins. Protein Expr Purif. 58(2):210-21
4. Schütz P, Wahlberg E, Karlberg T, Hammarström M, Collins R, Flores A, Schüler H. 2010. Crystal Structure of Human RNA Helicase A (DHX9): Structural Basis for Unselective Nucleotide Base Binding in a DEAD-Box Variant Protein. J Mol Biol. 23;400(4):768-82.
5. Adams MA, Luo Y, Hove-Jensen B, He SM, van Staalduinen LM, Zechel DL, Jia Z. 2008. Crystal structure of PhnH: an essential component of carbon-phosphorus lyase in Escherichia coli. J Bacteriol. 190(3):1072-83.

Visit our website for more publications and application notes.

TECHNICAL SUMMARY

Specification	LEX-48	LEX-24	LEX-10
Max. Capacity (2-liter cultures)	24 cultures	12 cultures	5 cultures
Max. Capacity (1-liter cultures)	40 cultures	20 cultures	6 cultures (9 with optional upgrade)
Temperature Control	Two independent temperature controllers	One temperature controller	One temperature controller
Temperature Range	4 - 45°C	4 - 45°C	4 - 45°C
Enclosure	Included	Included	Included
Width	116.5cm (46") Bench/table mount	83cm (32.5") Bench/table mount	94cm (37") Floor mount
Compressed Air Source	External	External	External

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