



AirOtop® Enhanced Seal

Resealable | 0.2µm hydrophobic gas-permeable membrane | Sterile
For Ultra Yield® 125mL Flask

cl



AirOtop® Enhanced Seal

Resealable | 0.2µm hydrophobic gas-permeable membrane | Sterile
For Ultra Yield® 250mL Flask

cl



AirOtop® Enhanced Seal

Resealable | 0.2µm hydrophobic gas-permeable membrane | Sterile
For Ultra Yield® 500mL Flask

cl



AirOtop® Enhanced Seal

Resealable | 0.2µm hydrophobic gas-permeable membrane | Sterile
For Ultra Yield® 1.5 & 2.5L Flasks

cl



Ultra Yield® 125mL Vent Cap

PTFE 0.2µm for Increased Aeration | Sterile
For Ultra Yield® 125mL Flasks



Ultra Yield® Bidirectional Transfer Cap

For 1.5 & 2.5L Ultra Yield® Flask | Sterile
Use with Peristaltic Pump



Ultra Yield® 250mL Vent Cap

PTFE 0.2µm for Increased Aeration | Sterile
For Ultra Yield® 250mL Flasks



Ultra Yield® 500mL Vent Cap

PTFE 0.2µm for Increased Aeration | Sterile
For Ultra Yield® 500mL Flasks



Ultra Yield® 1.5 & 2.5L Vent Cap

PTFE 0.2µm for Increased Aeration | Sterile
For Ultra Yield® 1.5 & 2.5L Flasks

Cell Culture Solutions

UltraYield Flasks® System



Thomson's
Ultra Yield® system
has proven over the last decade to enhance the aeration of *E. coli* and other microbial cells.

Thomson's Ultra Yield® System

THE ULTRA YIELD® SYSTEM CONSISTS OF FOUR COMPONENTS



ULTRA YIELD® FLASKS

Ultra Yield® Flasks are designed to be either single-use or autoclaved up to 3x and feature a unique geometry that enhances gas exchange.



• See AirOtop®

AIROTOP® ENHANCED SEALS

AirOtop® Enhanced Seals and Vented Screw Caps feature a 0.2µm hydrophobic gas-permeable resealable barrier providing consistent gas exchange for the duration of your culture.



• See Plasmid+®

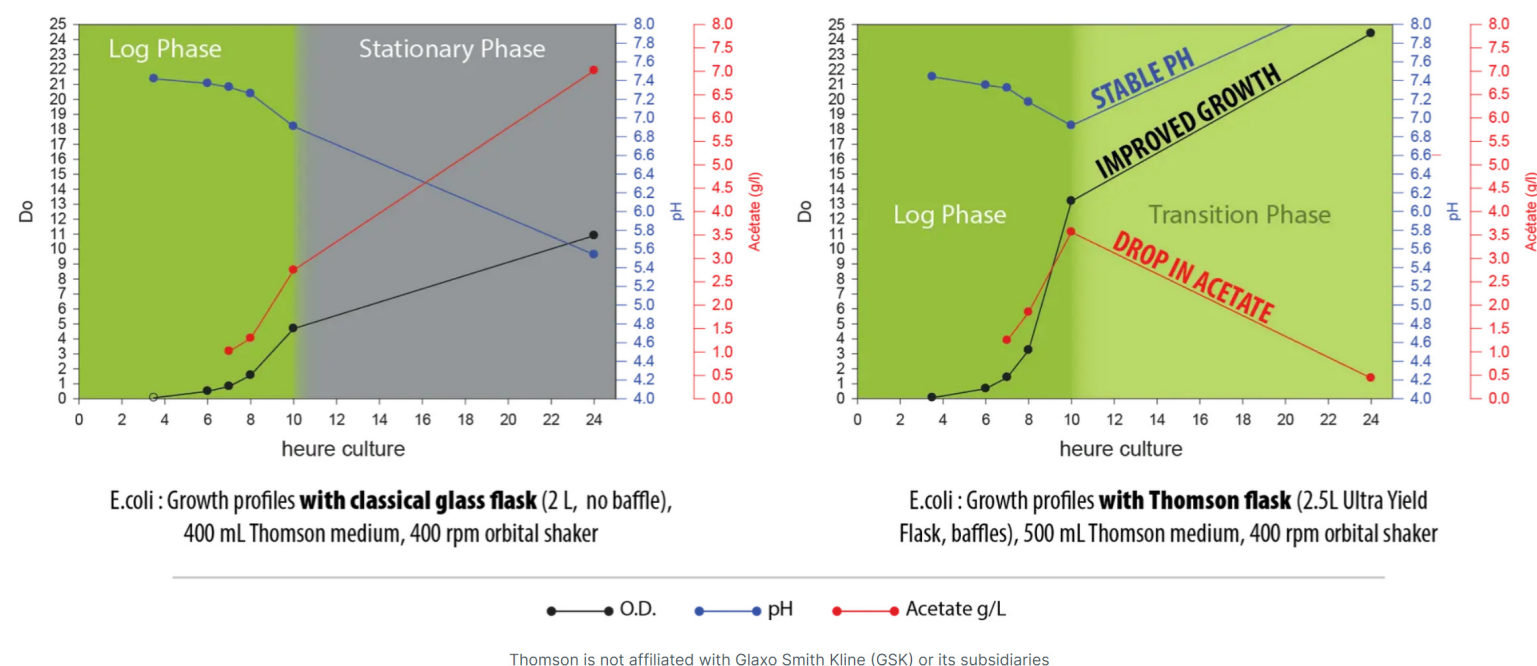
PLASMID+® ENRICHED MEDIA

Plasmid+® media is an animal origin free enhanced media which provides essential nutrients to help increase your DNA yields.

- 10x increased aeration over standard shake flasks
- Fully scalable results
- Fits all standard flask clamps
- Easily adaptable into microbial growth protocols
- Sterile, autoclavable flasks from 125mL – 2.5L
- Use with AirOtop® Enhanced Seals or Vented Screw Caps and Plasmid+® media
- Increased DNA & protein production
- Replacement for glass flasks

Data from GSK

E. coli when cultured in Thomson Ultra Yield® Flasks show cells going from Log Phase to Transition Phase (as opposed to Stationary Phase) resulting in an increase in microbial OD, overall a more stable pH and a lower acetate level compared to glass flasks



ULTRA YIELD® BIDIRECTIONAL TRANSFER CAP

In addition, when it comes time to harvest flask contents or transfer to larger fermenters Thomson manufactures a single-use Ultra Yield® Bidirectional Transfer Cap for the 1.5L and 2.5L Ultra Yield® Flasks. This aseptic transfer system keeps your process sterile and GMP-compliant.



Ultra Yield® 125mL Flask

40-50mL Working Volume | Sterile
Use AirOtop® Enhanced Seal or PTFE 0.2µm Vent Cap



Ultra Yield® 250mL Flask

75-110mL Working Volume | Sterile
Use AirOtop® Enhanced Seal or PTFE 0.2µm Vent Cap



Ultra Yield® 500mL Flask

125-200mL Working Volume | Sterile
Use AirOtop® Enhanced Seal or PTFE 0.2µm Vent Cap



Ultra Yield® 1.5L Flask

250-350mL Working Volume | Sterile
Use AirOtop® Enhanced Seal or PTFE 0.2µm Vent Cap



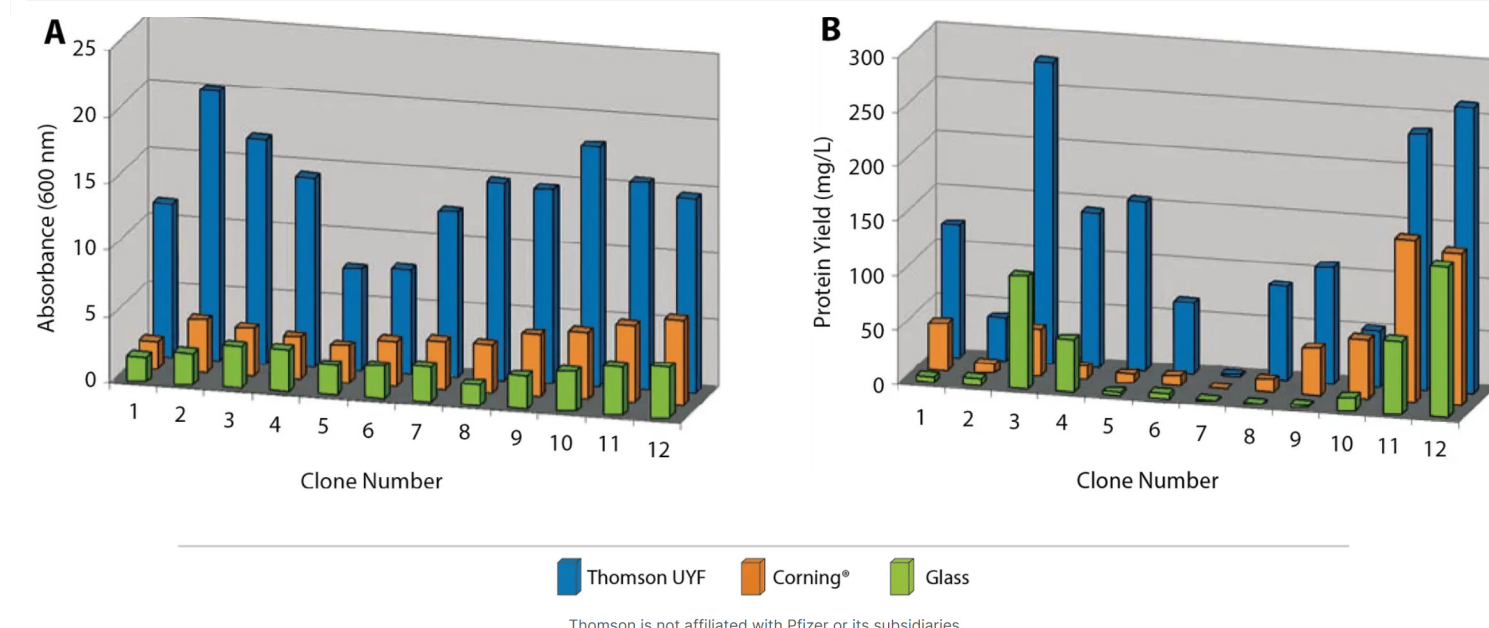
Ultra Yield® 2.5L Flask

500mL-1L Working Volume | Sterile
Use AirOtop® Enhanced Seal or PTFE 0.2µm Vent Cap

Data from Pfizer

610% Yield Increase

Economical parallel protein expression screening and scale-up in *Escherichia coli*. *Journal of Structural and Functional Genomics* 2006 Jun;7(2):101-8. Epub 2006 Dec 23.



Effect of flask design on *E. coli* culture growth and production of recombinant protein. (A) The effect of flask type and growth medium on the observed optical densities of the cultures at A600 following overnight protein expression. Cultures carried out in Fernbach flasks using either LB medium or TB medium are shown, respectively at the front (green) and in the center (orange). Cultures grown in Ultra Yield® flasks in TB medium are shown at the back (blue). (B) The yields of expressed soluble protein (determined by protein assay and recorded as mg protein per liter of expression culture) from the IMAC columns following purification of the twelve polyHis-tagged recombinant proteins, each expressed under the three conditions described in Panel A. Clone locations in Panel B are the same as those in Panel A