

Product Data Sheet

Name of Product:

Hyper Broth™ Media

Catalog Numbers: 0107 (Companion Product Cat. No. 0109)

Product Description

Hyper Broth™ is a proprietary medium formulation developed by AthenaES™ for improved expression of recombinant proteins in *E. coli*. The medium is composed of a complex, rich mixture of amino acids, vitamins, and a carbon source at higher levels than those of conventional media. Hyper Broth™ is highly buffered at pH 7.2 ± 0.2, which allows for higher carbon source levels. Hyper Broth™ is APF Certified™. For expression of recombinant proteins, induction should be done at cell densities 3 to 5 times that of LB Broth. Biomass yields are typically 5-fold higher than those obtained in LB Broth using shake flask cultures. Hyper Broth™ medium is suitable as the base for fermentation cultures including fedbatch processes. Biomass yields will depend on the process and the strain employed.

Instructions for Use:

1. Dissolve 44.5 g or the contents of one pouch in 950 ml of deionized water.
2. Sterilize by filtration or autoclaving.
Note: Filtration is preferred as it will preserve heat labile components and often gives higher growth yields.
3. Add 50 ml of sterile 20x Glucose Nutrient Mix (Cat. No. 0109).
4. Add antibiotics as needed.
5. For IPTG inducible expression, cultivate recombinant *E. coli* strains at the desired temperature to an OD₆₀₀ of about 2.0, add IPTG to 0.1 to 1.0 mM and incubate for 2.5 to 6 hours. Adjust induction time and duration accordingly.
6. For autoinduction, add 50 ml of sterile 20x Dream Induction Mix (Cat. No. 0184), inoculate with the recombinant strain and incubate at the desired temperature for 16 to 20 hours.

APF Certified:

Animal source materials are primarily a concern with regard to the possible transmission of diseases. AthenaES® classifies manufactured goods as animal product free ("APF Certified") when such products do not contain any primary raw materials derived directly from bovine or other animal tissues or use animal-derived materials in the manufacturing process. APF Certified culture medium and medium components do not contain any animal-derived materials. Manufactured products other than culture medium may be derived from processes which include secondary and tertiary level materials of animal origin which are classified only as very low risk (Category IV as defined by the European Medicines Agency or Category C as defined by the World Health Organization). None of the raw materials used in the manufacture of any AthenaES® products classified as APF Certified are derived directly from animal tissues. Secondary or tertiary level raw material are sourced from either synthetic or Category IV/C or non-human disease carrying animal species. To the best of our knowledge, all of AthenaES® products comply with this policy.



Athena Enzyme Systems™
1450 South Rolling Road
Baltimore, MD 21227
AthenaES®
a division of Athena Environmental Sciences, Inc.

T (MD): 410-455-6319
T (USA): 888-892-8408
F: 410-455-1155
USA
aesinfo@athenaes.com

Packaging:

Product	Packaging	Cat. No.
Hyper Broth™, powder	500 g	0107
Glucose Nutrient Mix	120 g	0109

Hyper Broth is sold as a two component medium

Quality Control:

Test	Specification
DCM Appearance	Homogeneous, free flowing
Color	Tan, light brown
PPM Appearance	Clear, no to light ppt.
Color	Medium Amber
pH at 25°C	7.2 ± 0.2
Microbial Growth	Good to Excellent

References:

1. Broedel, Jr., S. E., Papciak, S. M. and Jones, W. R. 2001. The Selection of Optimum Media Formulations for Improved Expression of Recombinant Proteins In *E. coli*. Athena Technical Bullitin Vol. 2 <http://www.athenaes.com/expression-media.html>.
2. Labrie, S. J., et al. 2012 Appl. Environ. Microbiol. 78(19):6890.
3. Gleason, F. and Olszewski, N. 2002. J. Bacteriol. 184(23):6544-6550.
4. Brinkman, M., et al. 2008. Infect. Immun. 76(5):1848-1857.

Material Safety Data:

FOR RESEARCH USE ONLY. NOT INTENDED OR APPROVED FOR HUMAN, DIAGNOSTICS OR VETERINARY USE. Do not ingest, swallow or inhale. Do not get in eyes, on skin or on clothing. Wash thoroughly after handling. For complete safety information see the full Material Safety Date Sheet.