Product Data Sheet

Name of Product:

Turbo, Turbo *Prime* and Turbo *Prime-olate* Broth Media

Catalog Numbers: 0104, 0110 and 0160

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Product Description

Turbo Broth™, Turbo *Prime* Broth™, and Turbo *Prime-olate*™ are proprietary media formulations developed by AthenaES™ for improved expression of recombinant proteins in *E. coli*. These media are composed of a complex, rich mixture of amino acids, vitamins, and a carbon source at higher levels than those of Terrific Broth. The media are buffered at pH 6.8 ± 0.2. Turbo *Prime*™ and Turbo *Prime-olate*™ are APF Certified™. For expression of recombinant proteins, induction should be done at cell densities three times that of LB Broth. Biomass yields are typically 3 to 4 times that of LB Broth in shake flask cultures depending on the characteristics of the strain. Several reports suggest that Turbo Broth™ and Turbo *Prime* Broth™ can increase the amount of soluble protein accumulated for otherwise insoluble proteins. This medium is suitable as the base for fermentation cultures. Biomass yields will depend on the process and the strain employed.

Instructions for Use:

1. Dissolve 47.6 g or the contents of one pouch in 1 liter of deionized water.
2. Add 4 ml of glycerol.
3. Add antibiotics as needed.
4. Sterilize by filtration or autoclaving.
   Note: Filtration will preserve heat labile components and may give higher growth yields.
5. For IPTG inducible expression, cultivate recombinant *E. coli* strains at the desired temperature to an OD_{600} of about 2.0, add IPTG to 0.1 to 1.0 mM and incubate for 2.5 to 6 hours.
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.

Packaging:

Product	Packaging	Cat. No.
Turbo Broth, powder	500 g	0104
Turbo *Prime* Broth, powder	500 g	0110
Turbo Prime-olate Broth, powder	500 g	0160
Turbo Broth, powder	10 x 1 L	0104-S
Turbo *Prime* Broth, powder	10 x 1 L	0110-S
Turbo Prime-olate Broth, powder	10 x 1 L	0160-S
Turbo Broth, liquid	500 ml	0115
Turbo *Prime* Broth, liquid	500 ml	0120
Turbo Prime-olate Broth, liquid	500 ml	0170

Quality Control:

Test	Specification
DCM Appearance	Homogeneous, free flowing
Color	Light brown
PPM Appearance	Clear, no to light ppt.
Color	Dark 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.