IFU

Instructions for Use

CHROMOGENIC SUPPLEMENTS

Cat. no. CG18	IPTG Solution 0.1M, 1.5ml amber tube, 1ml	6 tubes/box

INTENDED USE

Hardy Diagnostics CulGenex™ Chromogenic Supplements are recommended for use in the selective and/or differential growth of recombinant strains of *Escherichia coli* used for genetic research. X-GAL, used in conjunction with IPTG, is intended for the colorimetric detection of beta-galactosidase activity in recombinant strains.

This product is not intended to be used for the diagnosis of human disease.

SUMMARY

IPTG (isopropyl-beta-D-thiogalactopyranoside) is a non-metabolized analog of galactose used to induce expression of genes under control of the *lac* operon in *Escherichia coli*. It is used in conjunction with X-GAL to screen for "blue-white" colonies using vectors that support alpha complementation of beta-galactosidase to detect recombinant plasmids and phage.

Hardy Diagnostics CulGenex™ Chromogenic Supplements are pre-mixed and ready to use. They are available by the individual vial.

FORMULA

Ingredients per milliliter of molecular grade water:*

IPTG Solution 0.1M (Cat. no. CG18):	
IPTG	24.0mg

* Adjusted and/or supplemented as required to meet performance criteria.

STORAGE AND SHELF LIFE

Storage: Upon receipt store at 2-8ºC. away from direct light. Products should not be used if there are any signs of deterioration, discoloration, contamination, or if the expiration date has passed. Products are light and temperature sensitive; protect from light, excessive heat, and moisture. Avoid excessive freezing and thawing of frozen supplements.

The expiration date on the product label applies to the product in its intact packaging when stored as directed. The

product may be used and tested up to the expiration date on the product label and incubated for the recommended incubation times as stated below.

Refer to the document "Storage" for more information.

PRECAUTIONS

This product may contain components of animal origin. Certified knowledge of the origin and/or sanitary state of the animals does not guarantee the absence of transmissible pathogenic agents. Therefore, it is recommended that these products be treated as potentially infectious, and handle observing the usual universal blood precautions. Do not ingest, inhale, or allow to come into contact with skin.

This product is for laboratory use only. It is to be used only by adequately trained and qualified laboratory personnel. Observe approved biohazard precautions and aseptic techniques. All laboratory specimens should be considered infectious and handled according to "standard precautions." Refer to the document "Guidelines for Isolation Precautions" from the Centers for Disease Control and Prevention.

For additional information regarding specific precautions for the prevention of the transmission of all infectious agents from laboratory instruments and materials, and for recommendations for the management of exposure to infectious disease, refer to CLSI document M29: *Protection of Laboratory Workers from Occupationally Acquired Infections.*

Sterilize all biohazard waste before disposal.

Refer to the document "Precautions When Using Media" for more information.

PROCEDURE

Consult listed references for information on specific protocols.[1,2,4-6]

Adding supplements to freshly made plates prior to pouring:

1. After autoclaving, allow the medium to cool to 50ºC. prior to incorporating supplements.

For adding chromogenic supplements:

2a. Add IPTG to a final concentration of 0.1mM IPTG (1ul IPTG stock solution per ml of media) and X-GAL to a final concentration of 40ug/ml (1ul of X-GAL stock solution per ml of media).

QUALITY CONTROL

Hardy Diagnostics tests CulGenex™ IPTG Solution 0.1M for sterility and fill volume.

USER QUALITY CONTROL

End users of commercially prepared culture media should perform QC testing in accordance with applicable government regulatory agencies, and in compliance with accreditation requirements. Hardy Diagnostics recommends end users check for signs of contamination and deterioration and, if dictated by laboratory quality control procedures or regulation, perform quality control testing to demonstrate growth or a positive reaction and to demonstrate inhibition or a negative reaction, if applicable. Hardy Diagnostics quality control testing is documented on the certificate of analysis (CofA) available from Hardy Diagnostics Certificate of Analysis website. Also refer to the document "Finished Product Quality Control Procedures," and the CLSI document M22-A3 *Quality Assurance for Commercially Prepared Microbiological Culture Media* for more information on the appropriate QC procedures. See the references below.

PHYSICAL APPEARANCE

CulGenex™ IPTG Solution 0.1M, should appear clear, and colorless.

REFERENCES

1. Ausubel, F.M., R. Brent, R.E. Kingston, D.D. Moore, J.G. Seidman, J.A. Smith, K. Struhl, Editors. 2010. *Current Protocols in Molecular Biology* . John Wiley and Sons, Inc. Malden, MA.

2. Cseke, L.J., P.B. Kaufman, G.K. Podila, and C.J. Tsai. 2004. *Handbook of Molecular and Cellular Methods in Biology and Medicine* . CRC Press.Taylor & Francis LLC. Boca Raton, FL.

3. Pestka, S. 1975. The Use of Inhibitors in Studies on Protein Synthesis. *Meth. in Enzymology* ; 30:261-282.

4. Sambrook and Russell. 2001. *Molecular Cloning: A Laboratory Manual,* 3rd ed. Cold Spring Harbor Laboratory Press. Woodbury, New York.

5. Walker, J.M. 1984. *Methods in Molecular Biology* . The Humana Press Inc. Clifton, NJ.

6. Williams, S., B. Slatko, and J. McCarrey. 2006. *Laboratory Investigations in Molecular Biology* . Jones and Bartlett, Sudbury, MA.

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The Hardy Diagnostics manufacturing facility and quality management system is certified to ISO 13485.

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