ATCC

Product Sheet

Escherichia coli (ATCC® 23798™)

Please read this FIRST

Biosafety Level
1

Intended Use

This product is intended for research use only. It is not intended for any animal or human therapeutic or diagnostic use.

Citation of Strain

If use of this culture results in a scientific publication, it should be cited in that manuscript in the following manner: *Escherichia coli* (ATCC® 23798™)

American Type Culture Collection
PO Box 1549
Manassas, VA 20108 USA
www.atcc.org

800.638.6597 or 703.365.2700
Fax: 703.365.2750
Email: Tech@atcc.org

Or contact your local distributor

Description

Designation: AB3616
Deposited Name: *Escherichia coli* (Migula) Castellani and Chalmers

Propagation

Medium
ATCC® Medium 3: Nutrient agar or nutrient broth

Growth Conditions
Temperature: 37.0°C

Propagation Procedure
1. Open vial according to enclosed instructions.
2. Using a single tube of #3 broth (5 to 6 ml), withdraw approximately 0.5 to 1.0 ml with a Pasteur or 1.0 ml pipette. Rehydrate pellet.
3. Aseptically transfer this aliquot back into the broth tube. Mix well.
4. Use several drops of the suspension to inoculate a second tube of broth, a slant, and/or plate.
5. Incubate all tubes and plate at 37°C for 24 to 48 hours.

Notes

A series of mutant strains derived from *Escherichia coli* K-12, each mutant requiring a different growth factor, was prepared in the laboratory of Dr. E. A. Adelberg, Department of Microbiology, Yale University, New Haven, CT for deposit in the ATCC. The parent strain was AB1621 (ATCC 25290). It is F^- and has mutations in the following loci: lac, gal, ara, xyl, mtl, thi, str, tsx, tfr (for map locations, see Taylor, A. L. and D. C. Trotter, Bacteriol. Rev. 31, 332, 1967). The resulting mutant phenotype is: inability to utilize lactose, galactose, arabinose, xylose or mannitol; requirement for thiamine; and resistance to streptomycin and to phages T6 and T4. This stain grows well on any conventional minimal medium, such as half-strength medium 56 (Monad, J., et al., Biochim. Biophys. Acta 7: 585, l951) supplemented with glucose (final concentration: 0.2 percent) and thiamine (final concentration: 10^{-5} percent) and adjusted to pH 7.2. Strain AB1621 (ATCC 25290) was treated with N-methyl-N-nitroso-guanidine as described by Adelberg, E. A., et al. (Biochem. Biophys. Res. Comm. 18: 788, l965). Survivors were plated on Nutrient Agar and small colonies were tested for auxotrophs by inoculation onto minimal-glucose-thiamine agar and Nutrient Agar. Putative auxotrophs were purified by repeated single-colony isolations, and their requirements were identified by planting them on minimal-glucose-thiamine agar supplemented with individual growth factors or combination thereof. The strains selected for final use are ATCC 23783 to 23815, inclusive). They show no colonies in 48 hours at 37ºC when 10^2-10^3 cells are plated on minimal glucose-thiamine agar, and they produce colonies equivalent in size to those produced by the wild type when plated on the same medium supplement with the required growth factor. Supplements are provided at the following final concentrations:

DL-amino acids: 0.1 mg/ml (L-proline used at 0.2 mg/ml)
Adenine and uracil: 0.02 mg/ml
Succinate: 0.2 mg/ml
Vitamins: 0.1 mg/ml

Colonies are glistening, smooth, slightly irregular, and opaque.
Additional information on this culture is available on the ATCC web site at www.atcc.org.

References

References and other information relating to this product are available online at www.atcc.org.

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the current publication of the *Biosafety in Microbiological and Biomedical Laboratories* from the U.S. Department of Health and Human Services Centers for Disease Control and Prevention and National Institutes for Health.

ATCC Warranty

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ATCC® product is a living cell or microorganism, ATCC lists the media formulation that has been found to be effective for this product. While other, unspecified media may also produce satisfactory results, a change in media or the absence of an additive from the ATCC recommended media may affect recovery, growth and/or function of this product. If an alternative medium formulation is used, the ATCC warranty for viability is no longer valid.

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Please see the enclosed Material Transfer Agreement (MTA) for further details regarding the use of this product. The MTA is also available on our Web site at www.atcc.org

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