



Mycobacterium tuberculosis variant bovis

BAA-3393™

Description

Mycobacterium tuberculosis variant bovis strain BCG INH-R/FQ-R katG S315T/gyrA D94G is an attenuated drug-resistant strain developed in 2019 by researchers at McGill University, Canada. It was engineered from the *Mycobacterium bovis* BCG Russa vaccine strain. Using recombineering, the depositor introduced an S315T mutation in *katG* gene and a D94G mutation in *gyrA*, conferring resistance to isoniazid and fluoroquinolones. This strain is part of a panel of seven BSL-2 BCG strains (ATCC MP-51) engineered to be mono- or dual-resistant to various anti-tuberculosis drugs. These strains serve as safe QC reagents for TB diagnostics and drug-susceptibility testing workflows.

Strain designation: BCG INH-R/FQ-R katG S315T/gyrA D94G

Deposited As: *Mycobacterium bovis*

Type strain: No

Storage Conditions

Product format: Frozen

Storage conditions: -80°C or colder

Intended Use

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

BSL 2

Mycobacterium tuberculosis* variant *bovis

BAA-3393

ATCC determines the biosafety level of a material based on our risk assessment as guided by the current edition of *Biosafety in Microbiological and Biomedical Laboratories (BMBL)*, U.S. Department of Health and Human Services. It is your responsibility to understand the hazards associated with the material per your organization's policies and procedures as well as any other applicable regulations as enforced by your local or national agencies.

ATCC highly recommends that appropriate personal protective equipment is always used when handling vials. For cultures that require storage in liquid nitrogen, it is important to note that some vials may leak when submersed in liquid nitrogen and will slowly fill with liquid nitrogen. Upon thawing, the conversion of the liquid nitrogen back to its gas phase may result in the vial exploding or blowing off its cap with dangerous force creating flying debris. Unless necessary, ATCC recommends that these cultures be stored in the vapor phase of liquid nitrogen rather than submersed in liquid nitrogen.

Certificate of Analysis

For batch-specific test results, refer to the applicable certificate of analysis that can be found at www.atcc.org.

Growth Conditions

Medium:

ATCC Medium 1395: Middlebrook 7H9 broth with ADC enrichment

ATCC Medium 1785: Middlebrook 7H10 Agar + 4 ug/ml levofloxacin and 10 ug/ml isoniazid

Temperature: 37°C

Atmosphere: Aerobic

Handling Procedures

1. Open thawed vial.
 2. Aseptically transfer the entire contents to a 5-6 mL tube of #1395 broth. Additional test tubes can be inoculated by transferring 0.5 mL of the primary broth tube to these secondary tubes.
 3. Use several drops of the primary broth tube to inoculate a #1785 plate and/or #1785 agar slant.
 4. Incubate at 37°C for 2-3 weeks.
-

Notes

Medium #1395 should be used for dilution and transfer only. Medium #1785 should be used for growth of culture to maintain antibiotic resistance.

Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: *Mycobacterium tuberculosis* variant *bovis* (ATCC BAA-3393)

References

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

Warranty

The product is provided 'AS IS' and the viability of ATCC® products is warranted for 30 days from the date of shipment, provided that the customer has stored and handled the product according to the information included on the product information sheet, website, and Certificate of Analysis. For living cultures, ATCC lists the media formulation and reagents that have been found to be effective for the product.

Mycobacterium tuberculosis variant *bovis*

BAA-3393

While other unspecified media and reagents may also produce satisfactory results, a change in the ATCC and/or depositor-recommended protocols may affect the recovery, growth, and/or function of the product. If an alternative medium formulation or reagent is used, the ATCC warranty for viability is no longer valid. Except as expressly set forth herein, no other warranties of any kind are provided, express or implied, including, but not limited to, any implied warranties of merchantability, fitness for a particular purpose, manufacture according to cGMP standards, typicality, safety, accuracy, and/or noninfringement.

Disclaimers

This product is intended for laboratory research use only. It is not intended for any animal or human therapeutic use, any human or animal consumption, or any diagnostic use. Any proposed commercial use is prohibited without a [license from ATCC](#).

While ATCC uses reasonable efforts to include accurate and up-to-date information on this product sheet, ATCC makes no warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. ATCC does not warrant that such information has been confirmed to be accurate or complete and the customer bears the sole responsibility of confirming the accuracy and completeness of any such information.

This product is sent on the condition that the customer is responsible for and assumes all risk and responsibility in connection with the receipt, handling, storage, disposal, and use of the ATCC product including without limitation taking all appropriate safety and handling precautions to minimize health or environmental risk. As a condition of receiving the material, the customer agrees that any activity undertaken with the ATCC product and any progeny or modifications will be conducted in compliance with all applicable laws, regulations, and guidelines. This product is provided 'AS IS' with no representations or warranties whatsoever except as expressly set forth herein and in no event shall ATCC, its parents, subsidiaries, directors, officers, agents, employees, assigns, successors, and affiliates be liable for indirect, special, incidental, or consequential damages of any kind in connection with or arising out of the customer's use of the product. While reasonable effort is made

***Mycobacterium tuberculosis* variant bovis**

BAA-3393

Product Sheet

to ensure authenticity and reliability of materials on deposit, ATCC is not liable for damages arising from the misidentification or misrepresentation of such materials.

Please see the material transfer agreement (MTA) for further details regarding the use of this product. The MTA is available at www.atcc.org.

Copyright and Trademark Information

© ATCC 2023. All rights reserved.

ATCC is a registered trademark of the American Type Culture Collection.

Revision

This information on this document was last updated on 2026-05-12

Contact Information

ATCC

10801 University Boulevard

Manassas, VA 20110-2209

USA

US telephone: 800-638-6597

Worldwide telephone: +1-703-365-2700

Email: tech@atcc.org or contact your local distributor
