

INSTRUCTIONS FOR USE



UV·BioTAG™

■ UV-BioTAG™ Microorganisms

INTENDED USE

UV-BioTAG™ microorganisms are lyophilized, reference stock culture preparations containing a single microorganism strain. These microorganism preparations are intended to be used for research and development and as quality control agents in contained environments.

FORMULA COMPONENTS

The lyophilized preparation consists of:

- Microorganism population
- Skim milk (Bovine – USA origin)
- Carbohydrate
- Gelatin (Porcine – USA of Canada origin)
- Ascorbic acid

The gelatin serves as a carrier for the microorganism. Skim milk, ascorbic acid, and carbohydrate protect the microorganism by preserving the integrity of the cell wall during freeze-drying and storage.

UV-BioTAG microorganisms conform with Article 5 of EC 1069/2009 as they have reached the end point in the manufacturing chain and are no longer subject to the requirements of EC 1069/2009. The products are considered derived products per Article 36 of EC 1069/2009 and do not pose any significant risk to public or animal health.

PRODUCT DESCRIPTION

UV-BioTAG microorganisms contain a Green Fluorescent Protein (GFP) marker that produces fluorescence of the culture that is visible under UV or blue wave light. This allows for easy differentiation of these control strains from contaminants. The GFP reporter has been integrated into the chromosome. These modifications do not result in increased toxigenicity.

UV-BioTAG swab kits: Each UV-BioTAG swab kit consists of 6 individually packaged swabs. Each UV-BioTAG swab unit contains a lyophilized pellet of a single microorganism strain, a reservoir of hydrating fluid and an inoculating swab. Each swab is sealed within a laminated pouch that contains a desiccant to prevent adverse moisture accumulation.

UV-BioTAG vial kits: Each UV-BioTAG vial kit consists of 6 vials each containing 1 lyophilized pellet of an individual microorganism strain.



INSTRUCTIONS FOR USE ---

A. UV-BioTAG™ Swab Microorganism Procedure

1. Allow the unopened UV-BioTAG swab pouch to equilibrate to room temperature. Tear open pouch at notch and remove the UV-BioTAG swab unit.
2. Break red snap valve at the top of the UV-BioTAG swab to release the hydrating fluid.
3. Squeeze the bulb at the top of the UV-BioTAG swab to rehydrate the pellet.
4. Using a pinching action on the bottom portion of the unit, crush the pellet in the fluid until the pellet suspension is homogenous.
5. Inoculate a primary culture plate(s) by gently rolling the swab over one-third of the plate.
6. Continue according to laboratory protocol.
7. Using proper biohazard disposal, discard the UV-BioTAG swab.
8. Immediately incubate the inoculated primary culture plate(s) at temperature and conditions appropriate to the microorganism.

B. UV-BioTAG Vial Microorganism Procedure

1. Remove the plastic container containing the vials of pellets from refrigerated storage. Remove the vials to be used; immediately place the plastic container containing the remaining vials back into refrigerated storage to maintain product stability.
2. Aseptically remove 1 pellet with sterile forceps from the vial. Do not remove desiccant.
3. Place the pellet in 0.5 ml of sterile fluid (water, saline, Tryptic Soy Broth, or Brain Heart Infusion Broth).
4. Crush the pellet with a sterile swab until the suspension is homogenous.
5. Inoculate a primary culture plate(s) by gently rolling the swab over one-third of the plate.
6. Continue according to laboratory protocol.
7. Using proper biohazard disposal, discard the remaining hydrated material.
8. Immediately incubate the inoculated media at temperature and conditions appropriate to the microorganism.

C. Fluorescence

1. Following completion of the incubation period or test method, colonies growing on agar may be examined for fluorescence to determine whether the growth originated from the control strain or from a true positive sample.
2. A long wave UV or blue wave lamp and a dark room are needed for the detection of fluorescence. UV-BioTAG microorganisms' fluorescence is best detected using a UV or blue wave lamp that emits the following wavelengths:
 - a. 315 – 400 nm (for use with *Escherichia* sp., *Salmonella* sp., and *Shigella* sp. strains)
 - b. 475 – 495 nm (for use with *Listeria* sp. strains; use simultaneously with blue light barrier glasses)
3. Hold the lamp over the microorganism culture being tested for fluorescence. Visually examine the culture and determine whether it fluoresces. The expected result when the culture is being grown on Tryptic Soy Agar is a green fluorescence. Other agars and variables within each lab's processes may produce fluorescence with varying colors, or may mask the expression of the GFP due to biochemical byproducts produced during the test.

4. Green fluorescent proteins will continue to be expressed upon sub-culturing, but it is recommended that a new pellet suspension be used for each test. If the resuscitated culture is frozen, Microbiologics cannot guarantee the stated characteristics of the product.

PRECAUTIONS AND LIMITATIONS

- Specific strain characteristics are listed on the item page found at www.microbiologics.com.
- Not intended for clinical use.
- Not intended for human, animal or pet consumption.
- This product is for contained use only.
- This product is for research and development and use as a quality control agent only under 40 CFR Part 725.234.
- Refer to the Safety Data Sheet (SDS) for more detailed information. The SDS can be located at www.microbiologics.com or by contacting Technical Support at 1.320.229.7045.
- These products contain viable microorganisms that are pathogenic and considered a biohazard. The strains have not been attenuated. Proper techniques must be employed to avoid exposure and contact with any microorganism growth.
- Product must be used by, or directly under the supervision of, a technically qualified individual.
- Wash hands thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Causes serious eye irritation.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists: get medical advice/attention.
- This product is not intended to be used outside of a structure and shall be contained to prevent release into the environment.
- Product must be rendered inactive prior to disposal.
- Users of this product are responsible for any containment measures, records or notifications required by local and federal governments.
- This product is resistant to:

Microorganism Strain	Strain Resistance
<i>Escherichia coli</i> (O157:H7) EC43 (STEC)	Resistant to Chloramphenicol
<i>Listeria innocua</i> (6a)	Resistant to Erythromycin
<i>Listeria monocytogenes</i> (1/2a)	Resistant to Erythromycin
<i>Listeria monocytogenes</i> (1/2b)	Resistant to Erythromycin and Rifampicin
<i>Listeria monocytogenes</i> (4b)	Resistant to Erythromycin and Streptomycin
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Gaminara Sa157	Resistant to Chloramphenicol
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Mbandaka Sa158	Resistant to Chloramphenicol
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Minnesota Sa160	Resistant to Chloramphenicol
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Senftenberg Sa159	Resistant to Chloramphenicol
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Typhimurium Sa146	Resistant to Chloramphenicol
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Typhimurium Sa154	Resistant to Chloramphenicol
<i>Shigella flexneri</i> SF84	Resistant to Chloramphenicol
<i>Shigella sonnei</i> SS61	Resistant to Chloramphenicol

TECHNICAL NOTES

Shelf Life and Stability

Exposure to heat, moisture, and oxygen can adversely affect the stability of the product. Expiration dating, reproducibility and stability are predicated on proper storage of the lyophilized pellets in the original desiccant-containing pouch.

STORAGE AND EXPIRATION

Store the UV-BioTAG™ vials and UV-BioTAG swabs at 2°C–8°C in the original, sealed vial or pouch containing the desiccant. Stored as directed, the lyophilized microorganism preparation will retain, until the expiration date stated on the device label, its specifications and performance within the stated limits.

The GFP microorganisms should not be used if:

- Stored improperly
- There is evidence of excessive exposure to heat or moisture
- The expiration date has passed

MATERIALS REQUIRED BUT NOT PROVIDED

- UV-BioTAG vials require sterile tubes and 0.5 ml of sterile liquid such as Tryptic Soy Broth, Brain Heart Infusion Broth, saline, or deionized water to hydrate the lyophilized preparation. Sterile swabs or inoculating loops are needed to transfer the hydrated preparation to an agar plate.
- UV-BioTAG vials and UV-BioTAG swabs require non-selective, nutrient or enriched agar media and specific incubation times and conditions to optimize growth and recovery. Selective agar such as Luria-Bertani (LB) agar with Chloramphenicol may also be used for isolation and recovery.
- Long wave (UVA 315 – 400 nm) UV light (for use with *Escherichia* sp., *Salmonella* sp., and *Shigella* sp. strains)
- Blue wave (475 – 495 nm) light (for use with *Listeria* sp. strains)
- Blue light barrier glasses (for use with *Listeria* sp. strains)

KEY OF SYMBOLS



Batch Code (Lot)



Biological Risks



Catalog Number



Caution, Consult Accompanying Documents



Manufacturer



Temperature Limitation



Use By



Warning

PRODUCT WARRANTY ---

- These products are warranted to meet the specifications and performance printed and illustrated in product inserts, instructions, and supportive literature.
- The warranty, expressed or implied, is limited when:
 - The procedures employed in the laboratory are contrary to printed and illustrated directions and instructions
 - The products are employed for applications other than the intended use cited in product inserts, instructions, and supportive literature
- If the resuscitated culture is frozen, Microbiologics cannot guarantee the stated characteristics of the product.

WEBSITE ---

Visit our website, www.microbiologics.com, for current technical information, product availability, biohazard cleanup and Certificate of Analysis.

ACKNOWLEDGEMENTS ---



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Customer Service

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U.S. Toll Free 800.599.BUGS (2847)
Email: info@microbiologics.com

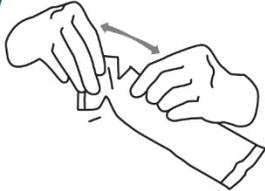
Technical Support

Tel. 1.320.229.7045
U.S. Toll Free 866.286.6691
Email: techsupport@microbiologics.com
www.microbiologics.com

UV·BioTAG™

ILLUSTRATED INSTRUCTIONS – SWAB KITS

1



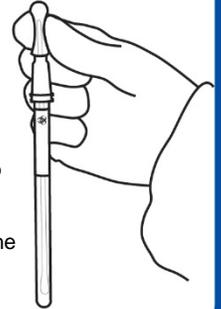
Allow the unopened UV-BioTAG swab pouch to equilibrate to room temperature. Tear open pouch at notch and remove the UV-BioTAG swab unit.

2



Break red snap valve at the top of the UV-BioTAG swab to release the hydrating fluid.

3



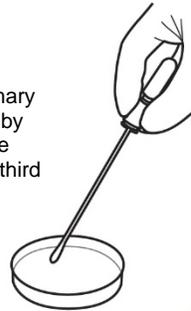
Squeeze the bulb at the top of the UV-BioTAG swab to rehydrate the pellet.

4



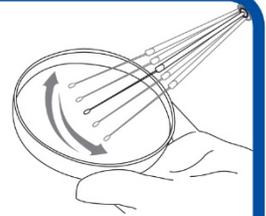
Using a pinching action on the bottom portion of the unit, crush the pellet in the fluid until the pellet suspension is homogenous.

5



Inoculate a primary culture plate(s) by gently rolling the swab over one-third of the plate.

6



Continue according to laboratory protocol.

7

Using proper biohazard disposal, discard the UV-BioTAG swab.



8

Immediately incubate the inoculated primary culture plate(s) at temperature and conditions appropriate to the microorganism.

ILLUSTRATED INSTRUCTIONS – VIAL KITS

1



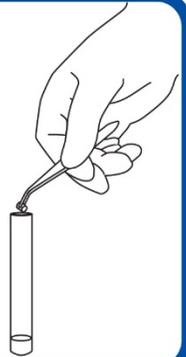
Remove the plastic container containing the vials of pellets from refrigerated storage. Remove the vials to be used; immediately place the plastic container containing the remaining vials back into refrigerated storage to maintain product stability.

2



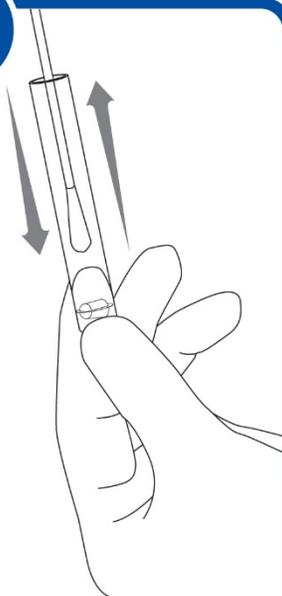
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3



Place the pellet in 0.5 ml of sterile fluid (water, saline, Tryptic Soy Broth, or Brain Heart Infusion Broth).

4



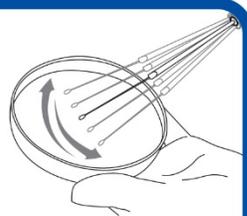
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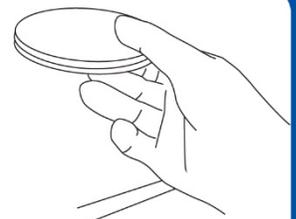
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7



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8

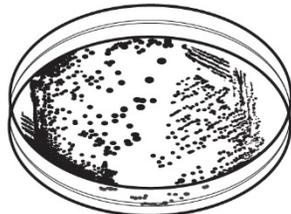


Immediately incubate the inoculated media at temperature and conditions appropriate to the microorganism.

UV·BioTAG™

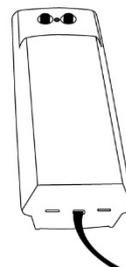
ILLUSTRATED INSTRUCTIONS – FLUORESCENCE DETECTION

1



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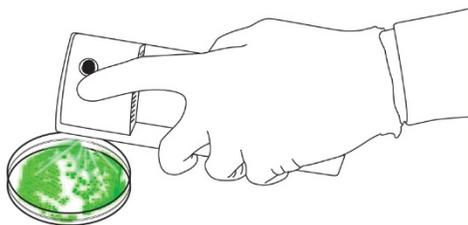
2



A long wave UV or blue wave lamp and a dark room are needed for the detection of fluorescence. UV-BioTAG microorganisms' fluorescence is best detected using a UV or blue wave lamp that emits the following wavelengths:

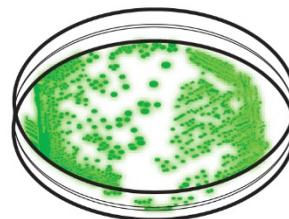
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