remel

UNI-OF™

INTENDED USE

Remel Uni-OF™ is a prepared medium recommended for use in qualitative procedures for the determination of oxidative and fermentative carbohydrate metabolism of an isolated microorganism.

SUMMARY AND EXPLANATION

Uni-OF™ is a single, constricted tube containing a nutrient medium and a single carbohydrate. Separation of gram-negative bacilli based on identification of oxidative and fermentative pathways has been used for years. Classically, these determinations were made by inoculating dual tubes in which one was open to the air and the other was overlaid with mineral oil to ensure anaerobic conditions.[1] Uni-OF™ identifies the pathway (oxidative or fermentative) by which carbohydrate metabolism occurs for a specific carbohydrate in a single tube without an oil overlay. Uni-OF™ is limited to this distinction for a single carbohydrate per tube.

PRINCIPLE

Uni-OF™ is inoculated from an isolated colony and incubated for 24-96 hours at 33-37°C. During incubation, organisms metabolize the carbohydrate and produce acid, reducing the pH of the medium. An indicator (bromthymol blue) changes the color to yellow as the pH is lowered and remains green or changes to blue as the pH remains constant or rises. The constriction in Uni-OF™ tube separates the oxidative from the fermentative pathway by excluding oxygen below the constriction.

REAGENTS (CLASSICAL FORMULA)*

Carbohydrate**	10.0	g
Sodium Chloride	5.0	g
Tryptone	2.0	g
Dipotassium Phosphate	0.3	g
Bromthymol Blue	0.08	g
Agar	4.0	g
Demineralized Water	1000.0	ml

*Adjusted as required to meet performance standards.

**Uni-OF™ tubes are available with the following carbohydrates: glucose, lactose, maltose, mannitol, sucrose, and xylose. They are sold under separate product numbers as listed in the Packaging section.

PRECAUTIONS

This product is for *In Vitro* diagnostic use and should be used by properly trained individuals. Precautions should be taken against the dangers of microbiological hazards by properly sterilizing specimens, containers, and media after use. Directions should be read and followed carefully.

STORAGE

This product is ready for use and no further preparation is necessary. Store product in its original container at 2-8°C until used. Do not freeze or overheat. Allow product to equilibrate to room temperature before use. Do not incubate prior to use.

PRODUCT DETERIORATION

This product should not be used if (1) there is evidence of dehydration or cracking, (2) the product is contaminated, (3) the color has changed, (4) the expiration date has passed, or (5) there are other signs of deterioration.

SPECIMEN COLLECTION, STORAGE, AND TRANSPORT

Specimens should be collected and handled following recommended guidelines.[2,3]

MATERIALS REQUIRED BUT NOT SUPPLIED

(1) Loop sterilization device, (2) Inoculating loop, needle, swabs, collection containers, (3) Incubators, alternative environmental systems, (4) Supplemental media, (5) Quality control organisms.

PROCEDURE

Colonies to be tested should be 18-24 hours old and in pure culture. Refer to standard references for information on microbiological technique and selection of supplemental media.[2,3]

1. Using a sterile inoculating needle, touch the center of an isolated colony being careful not to penetrate the agar surface.
2. Inoculate to the bottom of the Uni-OF™ tube by stabbing through the constricted portion of the tube. Replace the cap loosely.
3. Incubate the tube in an upright position, aerobically for 24-96 hours at 33-37°C.
4. After 24 hours, examine the tube for positive reactions. Usually glucose will be positive by this time.
5. Reincubate negative tubes and discard positive tubes.
6. Examine tubes at 24 hour intervals for the next 96 hours. Record positive results as they appear.

INTERPRETATION

REACTION	LOCATION	POSITIVE	NEGATIVE
Oxidation	Above the constriction	Yellow	*Blue or green
Fermentation	Below the constriction	Yellow	Green

***Note**: Blue is indicative of an alkaline reaction.

QUALITY CONTROL

All lot numbers of Uni-OF™ have been tested using the following quality control organisms and found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, patient results should not be reported.

CONTROL	GLUC		LACT		MALT		MANN		SUC		XYL	
	O	F	O	F	O	F	O	F	O	F	O	F
Aeromonas hydrophila ATCC® 7965	+	+	-	-	+	+	+	+	+	+	-	-
Acinetobacter sp. ATCC® 9957	-	-	-	-	-	-	-	-	-	-	-	-
Escherichia coli ATCC® 12014	+	+			+	+	+	+	V	V	+	+
Escherichia coli ATCC® 25922			+	+								

LIMITATIONS

Uni-OF™ determines the metabolic pathway by which a single organism metabolizes a single carbohydrate.

PERFORMANCE CHARACTERISTICS

In a clinical evaluation of over 100 gram-negative organisms, Brown et al. obtained identical results using Uni-OF™ tubes and the conventional dual-tube oxidative-fermentative (OF) method.[4]

BIBLIOGRAPHY

1. Hugh, R. and E. Leifson. 1953. J. Bacteriol. 66:24-26.
2. Forbes, B.A., D.F. Sahm, and A.S. Weissfeld. 2007. Bailey and Scott's Diagnostic Microbiology. 12th ed. Mosby Elsevier, St. Louis, MO.
3. Murray, P.R., E.J. Baron, J.H. Jorgensen, M.L. Landry, and M.A. Pfaller. 2007. Manual of Clinical Microbiology. 9th ed. ASM Press, Washington, D.C.
4. Brown, W.J. 1974. Appl. Microbiol. 27:811-813.

PACKAGING

REF R7310060, Uni-OF™ Glucose	20/Pk
REF R7310061, Uni-OF™ Lactose	20/Pk
REF R7310062, Uni-OF™ Maltose	20/Pk
REF R7310063, Uni-OF™ Mannitol	20/Pk
REF R7310064, Uni-OF™ Sucrose	20/Pk
REF R7310065, Uni-OF™ Xylose	20/Pk

Symbol Legend

REF	Catalog Number
IVD	In Vitro Diagnostic Medical Device
LAB	For Laboratory Use
	Consult Instructions for Use (IFU)
	Temperature Limitation (Storage Temp.)
LOT	Batch Code (Lot Number)
	Use By (Expiration Date)

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