Technical Data

KB021 HiBifido Identification Kit

RAPID

Introduction :

KB021 is identification and differentiation system for genus Bifidobacterium. The complete list of organisms that can be identified with this system is given in the identification index provided with the kit.

Principle :

KB021 is a standardized, colorimetric identification system utilizing one conventional biochemical tests and eleven carbohydrate fermentation test. The tests are based on the principle of pH change and substrate utilization. On incubation organisms undergo metabolic changes which are indicated by a colour change in the media that can be either interpreted visually or after addition of reagent wherever required.

Kit contents :

1. Each kit contains sufficient material to perform 10 tests
2. 10 strips of KB021
3. Technical product insert
4. Result Interpretation Chart and Result Entry Datasheet
5. Identification Index

Type of specimen :

Food and dairy samples, Clinical samples.

Specimen Collection and Handling :

For food, dairy or clinical samples follow appropriate techniques for handling specimens as per established guidelines.

Warning and Precautions :

In Vitro diagnostic Use only. Read the label before opening the kit. Food, dairy, clinical samples and microbial cultures should be considered potentially pathogenic and handled accordingly. Aseptic conditions should be maintained during inoculation and handling of the kits. Reagents should not come in contact with skin, eyes or clothing. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in safety data sheets.

Limitations :

1. KB021 cannot be used directly on food, dairy or clinical samples. The organisms to be identified have to be first isolated and purified. Only pure cultures should be used.
2. In case of Carbohydrate fermentation test some microorganisms show weak reaction. In this case record the reaction as ± and incubate further upto 48 hours.
3. At times organisms give contradictory result because of mutation or the media used for isolation, cultivation and maintenance.
4. The identification index has been compiled from standard references and results of tests obtained in the laboratory.

Performance and Evaluation :

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Instructions for use Interpretation of Results :

Interpret results as per the standards given in the result interpretation chart. Addition of 3% H_2O_2 in well no 1, should be done at the end of incubation period that is after 24-48 hours under anaerobic condtions.

Well No. 1 : Catalase Test:

- Scrape a loopful of growth from the surface of the well. Dip the loop in a small, clean test tube containing 3% Hydrogen peroxide.
- Positive catalase test is seen as effervescence coming out from the surface of the loop.
- No effervescence is observed in case of negative catalase test.

Note : 3% H_2O_2 has to be freshly prepared

Important points to be taken into consideration while interpreting the result

1. Allow the reagents to come to room temperature after removal from the refrigerator .

Disposal of used material :

After use, kits and the materials used for isolation and inoculation (pipettes, loops etc.) must be disinfected using a suitable disinfectant and then discarded by incineration or autoclaving in a disposable bag.

Instructions for use

Preparation of inoculum :

- Isolate the organism to be identified on a medium like Bifidobacterium Agar (M1396) or Soyabean Casein Digest Agar (M290) with addition of 5-7% v/v defibrinated sheep blood.
- Pick up a single isolated colony and inoculate in 5 ml Bifidobacterium Broth (M1395) and incubate at 35-37$_0$C under anaerobic condition for 6-18 hours until the inoculum turbidity is 0.1OD at 620nm or 0.5 McFarland standards.
- Alternatively, prepare the inoculum by picking 1-3 well isolated colonies and make a homogenous suspension in 2-3 ml sterile saline.

  The density of the suspension should be 0.1OD at 620nm or 0.5 McFarland standards.

Note : Erroneous false negative results may be obtained if the inoculum turbidity is less than 0.1 OD.
Results are more prominent if an enriched culture is used instead of suspension.

Inoculation of the kit :

- Open the kit aseptically. Peel off the sealing tape.
- Inoculate each well with 50 µl of the above inoculum by surface inoculation method.
- Alternatively the kit can be inoculated by stabbing each individual well with a loopful of inoculum.

Incubation :

- Temperature of incubation : 35 - 37^{0}C under anaerobic condtions. Duration of incubation : 24-48 hours.

Storage and Shelf life :

On receipt, store at 2-8^{0}C. Shelf life is 12 months. Product performance is best if used within stated expiry period.

Biochemical reactions of KB021

Well No	Test	Reagents to be added after incubation	Principle	Original colour of the medium	Positive reaction	Negative reaction
1	Catalase	3% H_2O_2	Detects Catalase activity	Colourless	Effervescence coming out from the loop	No effervescence seen
2	Arabinose	-	Fermentation of Arabinose	Purple	Yellow	Purple
3	Cellobiose	-	Fermentation of Cellobiose	Purple	Yellow	Purple
4.	Fructose	-	Fermentation of Fructose	Purple	Yellow	Purple
5.	Lactose	-	Fermentation of Lactose	Purple	Yellow	Purple
6.	Maltose	-	Fermentation of Maltose	Purple	Yellow	Purple
7.	Mannose	-	Fermentation of Mannose	Purple	Yellow	Purple
8.	Mellibiose	-	Fermentation of Mellibiose	Purple	Yellow	Purple
9.	Raffinose	-	Fermentation of Raffinose	Purple	Yellow	Purple
10.	Sucrose	-	Fermentation of Sucrose	Purple	Yellow	Purple
11.	Xylose	-	Fermentation of Xylose	Purple	Yellow	Purple
12.	Salicin	-	Fermentation of Salicin	Purple	Yellow	Purple

	Catalase	L-Arabinose	Cellobiose	Fructose	Lactose	Maltose	Mannose	Mellibiose	Raffinose	Sucrose	Xylose	Salicin
B.bifidum	N	N	N	P	P	N	N	V	N	V	N	N
B.adolescentis	N	P	P	P	P	P	V	P	P	P	P	P
B.angulatum	N	P	N	P	P	P	N	P	P	P	P	P
B.animalis subsp. animalis	N	P	V	P	P	P	V	P	P	P	P	P
B.animalis subsp.lactis	N	P	N	N	P	P	N	P	P	P	P	N
B.asteroides	P	N	P	P	N	V	N	P	P	P	P	P
B.bombi	N	N	N	ND	N	N	P	P	ND	ND	ND	P
B.bown	N	N	N	P	V	P	N	P	P	P	N	N
B.breve	N	N	N	P	P	P	P	P	P	P	N	P
B.catenulatum	N	P	P	P	P	P	N	P	P	P	P	P
B.choerinum	N	N	N	N	P	P	N	P	P	P	N	N
B.corneforme	P	N	P	P	N	P	N	P	P	P	P	P
B.cuniculi	N	P	N	N	N	P	N	P	N	P	P	N
B.dentium	N	P	P	P	P	P	P	P	P	P	P	P
B.gallinarum	N	P	V	P	P	P	V	P	P	P	P	P
B.gallicum	N	P	N	P	N	P	N	N	N	P	P	P
B.indicum	N	N	P	P	N	V	V	P	P	P	N	P
B.longum subsp. longum	N	P	N	P	P	P	V	P	P	P	V	N
B.longum subsp. infantis	N	N	V	P	P	P	V	P	P	P	V	N
B.longum subsp. suis	N	P	N	V	P	P	V	P	P	P	P	N
B.magnum	N	P	N	P	P	P	N	P	P	P	P	N
B.merycicum	N	P	V	P	P	P	N	P	P	P	P	P
B.minimum	N	N	N	P	N	P	N	N	N	P	N	N
B.mongoliense	N	P	P	N	P	P	N	P	P	P	N	P
B.pseudocatenulatum	N	P	V	P	P	P	P	P	P	P	P	P
B.pseudolongum subsp. pseudolongum	N	P	V	P	V	P	P	P	P	P	P	N
B.pseudolongum subsp. globosum	N	V	N	P	P	P	N	P	P	P	V	N
B.pullorum	N	P	N	P	N	P	P	P	P	P	P	P
B.ruminantium	N	N	N	P	P	P	N	P	P	P	N	P
B.saeculare	N	P	N	P	P	P	P	P	P	P	P	V
B.scardovii	N	P	ND	ND	P	P	P	P	P	P	ND	ND
B.subtile	N	N	N	P	N	P	N	P	P	P	N	V
B.thermoacidophilum subsp.thermacido-philum	N	P	ND	P	N	ND	N	P	P	P	N	N
B.thermoacidophilum	N	N	V	P	V	P	N	P	P	P	N	V
B.tsurumiense	N	P	P	P	P	P	P	P	P	P	P	P

key : P : Positive, N : Negative, ND: Not detected, V : Variable

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