

# HiMedia's

Complete range of products for

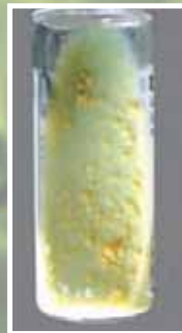
# Tuberculosis Diagnosis

**For Identification**  
– Staining Kits for Mycobacteria



Acid Fast organism (Mycobacteria)  
stained using  
K005 Ziehl Neelsen Acid Fast Stain Kit

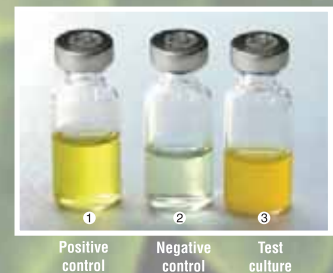
**For Cultivation**  
– Media and Supplements  
available in powder and  
ready prepared form



Growth of  
*M. tuberculosis*  
on SL001

**For Confirmation**  
– Various biochemical kits available

K048 Niacin Detection Kit



*Fast, Economical, Easy, Reliable and Confirmatory*  
In world's most cost effective manner



**HIMEDIA®**  
For life is precious

# Tuberculosis Diagnosis

**T**uberculosis has been a phenomenal foe to mankind and has taken its toll on human life over several centuries. Being the most common cause of death world over due to a single infectious agent in adults, tuberculosis accounts for over a quarter of all avoidable deaths globally.

The resurgence of tuberculosis as the “twin-disaster” of co-infection with the Human Immunodeficiency Virus (HIV) and the occurrence of the multi-drug resistant tuberculosis is demanding for focused attention of the clinicians, society and the health administrators.

Clinical microbiology laboratories can play an important role in the control of the spread of tuberculosis through the timely detection, isolation, identification and drug susceptibility testing of *Mycobacterium tuberculosis*.

HiMedia offers the varied range of products required for the complete diagnosis of tuberculosis, right from specimen collection containers upto drug sensitivity testing and confirmative Biochemical Test Kits.

The prepared, ready to use L. J. Media Slants, support confirmed growth of *Mycobacterium tuberculosis* bacteria after incubation. Thus helping in early diagnosis and treatment of Tuberculosis. HiMedia's L.J. Media Slants is “THE” test to be done if clinician is suspecting a positive case of TB.

## Complete comprehensive Product range

for isolation, cultivation and  
biochemical identification of *M. tuberculosis*

- Sample Collection
- Sample Processing, Sputum Digestion
- Enriching Sample with Growth and Selective supplements
- Cultivating and Isolating *Mycobacteria* on Selective Media (In Powder form & Prepared form)
- Ready Prepared L. J. Medium slants, plain & with antibiotics for Drug Susceptibility Testing
- Staining Kits for Diagnosis of *Mycobacteria*
- Biochemical Identification Kit for Confirmation of *Mycobacteria*

## For Sample Collection and processing

### Sterile specimen collectors available are

- PW015 Sterile Clinical
- PW1130 Sterile Container
- PW1179 Sterile Multipurpose Clinical Sample Collector
- PW047 Multipurpose Clinical Sterile Container



**PW047 Multipurpose Clinical Sample Collector, PP.**  
Autoclavable, graduated, capacity 100 ml, having spoon attachment for urine, stool, sputum or pus sample collection



**PW015 Sterile Clinical**  
For collection of sputum samples.

### For working with pathogenic cultures - Disposable Plastic HiFlexiLoops



Disposable Plastic FlexiLoops  
For working with *M. tuberculosis* Culture

**PW012/ HiFlexiLoop 2**  
PW012S\* Sterilized flexible loop, 2.2 mm diameter, calibrated to 0.005ml, individually sealed

**PW013/ HiFlexiLoop 4**  
PW013S\* Sterilized flexible loop, 4.4 mm diameter, calibrated to 0.01ml, individually sealed

**PW014/ HiFlexiLoop-S**  
PW014S\* Sterilized flexible loop, straight for stab inoculation, individually sealed

**PW051/ HiFlexiLoop Plus-2**  
PW051S\* Sterilized flexible loop with streaker/ stabber tip, size :1.25mm diameter, calibrated to 1µl

**PW052/ StabiFlexiLoop Plus-2**  
PW052S\* Sterilized flexible calibrated loop with streaker/ stabber tip, size : 2.2 mm diameter, calibrated to 0.005 ml

**PW053/ StabiFlexiLoop Plus-4**  
PW053S\* Sterilized flexible calibrated loop with streaker/ stabber tip, size : 4.4 mm diameter, calibrated to 0.01ml

\* 'Economical pack' - 100 loops packed in Steripack container.

### Lab Accessories

Microslide M1 20± 1mm area frosted



Plain & Frosted

Code	Microslide	Thickness
GW050	Standard Plain	1.0 mm
GW051	Standard Plain	1.2 mm
GW052	Standard Plain	1.35±0.05 mm
GW053	M1	1.0 mm
GW054	M1	1.2 mm
GW056	M1	1.35±0.05 mm

PW143 Centrifuge Tube



With Screw Cap, PP  
Autoclavable, graduated, overflowing capacity : 50ml.

Maximum RCF valve : 5000g

PW144 Centrifuge Tube



With Screw Cap, PP  
Autoclavable, graduated, overflowing capacity : 15ml.

Maximum RCF valve : 6000g

## For Sputum Sample processing

### Reagents for Sputum Digestion and Decontamination



#### FD173 / FD173B Mycoprep

A combination liquefaction and decontamination mixture, containing : NALC (N-acetyl L-cysteine alkali digestant) 2% Sodium hydroxide-citrate and phosphate buffer. Eliminates contaminating bacteria and digests sputum.



#### FD118 Mucosal

For optimal recovery of mycobacteria from clinical specimens, releasing mycobacteria trapped in mucin and cells due to sputum liquefying action of DTT (dithiothreitol).

## For Enrichment, Cultivation and Isolation

### Using selective media (in powder form and prepared form) along with growth and selective supplements

#### Dehydrated Media w/ supplements wherever required

M067	Dubos Broth Base For preparation of liquid medium for rapid cultivation of pure cultures of <i>M. tuberculosis</i> and related microorganism	M198	Middlebrook 7H9 Broth Base For cultivation and sensitivity testing of <i>M. tuberculosis</i>
FD201*	Albumin Glucose Supplement	FD019*	Middlebrook ADC Growth Supplement
MV067	Dubos HiVeg™ Broth Base For preparation of liquid medium for rapid cultivation of pure cultures of <i>M. tuberculosis</i> and related microorganisms	M199	Middlebrook 7H10 Agar Base For isolation, cultivation and sensitivity testing of <i>M. tuberculosis</i>
FD201*	Albumin Glucose Supplement	FD018*	Middlebrook OADC Growth Supplement
M179	Dubos Oleic Agar Base For cultivation of <i>M. tuberculosis</i>	M196	Middlebrook 7H10 Agar Base, Special For isolation, cultivation and sensitivity testing of <i>M. tuberculosis</i>
FD020*	Oleic Albumin Supplement	FD018*	Middlebrook OADC Growth Supplement
MV179	Dubos HiVeg™ Broth Base For cultivation of <i>M. tuberculosis</i>	M511	Middlebrook 7H11 Agar Base For isolation, cultivation and sensitivity testing of <i>Mycobacteria</i>
FD020*	Oleic Albumin Supplement	FD018*	Middlebrook OADC Growth Supplement
M839	Dubos Oleic Broth Base For cultivation of <i>M. tuberculosis</i>	MV511	Middlebrook 7H11 HiVeg™ Agar Base For isolation, cultivation and sensitivity testing of <i>Mycobacteria</i>
FD020*	Oleic Albumin Supplement	FD018*	Middlebrook OADC Growth Supplement
MV839	Dubos Oleic HiVeg™ Broth Base For cultivation of <i>M. tuberculosis</i>	M511A	Middlebrook 7H11 Agar Base w/o Malachite Green For isolation, cultivation and determination of antimicrobial susceptibility of <i>Mycobacteria</i>
FD020*	Oleic Albumin Supplement	FD018*	Middlebrook OADC Growth Supplement
M247	IUT Medium Base For cultivation of <i>M. tuberculosis</i>	M867	Peizer TB Medium Base For cultivation of <i>M. tuberculosis</i>
M161	Kirchner Medium Base, Modified For cultivation of <i>M. tuberculosis</i>	M100	TB Broth Base For cultivation of <i>M. tuberculosis</i>
RM1239**	Horse Serum	MV100	TB HiVeg™ Broth Base For cultivation of <i>M. tuberculosis</i>
M162	Lowenstein Jensen Medium Base (L.J. Medium) It is an egg-based medium, supporting good growth of <i>Mycobacteria</i> , specially <i>M. tuberculosis</i>	M034	TB Broth Base w/o Tween 80 For cultivation of <i>M. tuberculosis</i> when the presence of oleic acid is undesirable
FD053*	Gruft Mycobacterial Supplement	MV034	TB HiVeg™ Broth Base w/o Tween 80 For cultivation of <i>M. tuberculosis</i> when the presence of oleic acid is undesirable
M1542	Lowenstein Jensen Medium Base w/o starch <b>For drug resistance testing of <i>Mycobacteria</i> as recommended by WHO</b>	M1059	Wayne Sulphatase Agar Base For biochemical differentiation of <i>Mycobacteria</i> on the their ability to produce arylsulphatase.
M197	Middlebrook 7H9 Agar Base For isolation, cultivation and sensitivity testing of <i>M. tuberculosis</i>	M1697	Proskauer Beck Medium For the cultivation and maintenance of <i>M. tuberculosis</i>
FD018*	Middlebrook OADC Growth Supplement		

### FD260\* Penta Mix

An antibiotic mixture recommended to add in media to reduce contamination of other organisms from suspected tuberculosis positive clinical samples prior to inoculation. If desired can be added to M198 (Middlebrook 7H9 Broth Base).



**FD260 Penta Mix ;**  
Contains Polymyxin B,  
Amphotericin B, Nalidixic acid,  
Trimethoprim & Azolectin

## Ready Prepared Media

### L.J. Medium Slants\* with and without antibiotics

SL001 L.J. Medium Slant	SL021 L.J. Medium Slant w/ p-Nitrobenzoic acid (500 µg/ml) for cultivation of <i>Mycobacterium tuberculosis</i> and for resistance teting.
SL001T L.J. Medium Slant in Thick Glass bottles for cultivation of <i>Mycobacterium tuberculosis</i>	SL008 Acid Egg Medium Slant for cultivation of <i>Mycobacterium tuberculosis</i>
SL022 L.J. Medium Slant w/o Glycerol for cultivation of <i>Mycobacterium tuberculosis</i> and resistance testing	SL025 Dorset Egg Medium Slant for growth <i>Mycobacterium tuberculosis</i>
SL066 L.J. Medium Slant w/ Capreomycin (20 µg/ml) for cultivation of <i>Mycobacterium tuberculosis</i> and resistance testing	SL023 Tuberculosis First Line Kit (Total 7 slants) Kit containing five antitubercular drugs (Isoniazide, Streptomycin, Ethambutol, Rifampicin, Pyrazinamide) + 2 controls
SL067 L.J. Medium Slant w/ Capreomycin (40 µg/ml) for cultivation of <i>Mycobacterium tuberculosis</i> and resistance testing	SL023L Tuberculosis First Line Kit (Total 7 slants) Kit containing five antitubercular drugs (Isoniazide, Streptomycin, Ethambutol, Rifampicin, Pyrazinamide) + 2 controls
SL017 L.J. Medium Slant w/ D-Cycloserine (30 µg/ml) for cultivation of <i>Mycobacterium tuberculosis</i> and resistance testing	SL024 Tuberculosis Second Line Kit (Total 10 slants) Kit containing eight antitubercular drugs (Kanamycin, Amikacin, Ethionamide, D Cycloserine, Clarithromycin, Ciprofloxacin, p-Amino salicylic acid, Rifabutin) + 2 controls
SL070 L.J. Medium Slant w/ D-Cycloserine (40 µg/ml) for cultivation of <i>Mycobacterium tuberculosis</i> and resistance testing	SL024L Tuberculosis Second Line Kit (Total 10 slants) Kit containing eight antitubercular drugs (Kanamycin, Amikacin, Ethionamide, D Cycloserine, Clarithromycin, Ciprofloxacin, p-Amino salicylic acid, Rifabutin) + 2 controls
SL081 L.J. Medium Slant w/ Kanamycin (20 µg/ml) for cultivation of <i>Mycobacterium tuberculosis</i> and resistance testing	K050 Kit of Selective Isolation of <i>M. tuberculosis</i> (*Sufficient for 5 tests) recommended for selective isolation of <i>M. tuberculosis</i> from clinical samples Kit contents : Part A : SL001 Lowenstein Jensen Medium 5 nos Part B : LQ105 Krichner medium base (4ml) 5 nos Part C : FD241 Pocrtri supplement 5 vls., (Containing Polymyxin B, Amphotericin B, Carbenicillin & Trimethoprim)
SL082 L.J. Medium Slant w/ Kanamycin (30 µg/ml) for cultivation of <i>Mycobacterium tuberculosis</i> and resistance testing	
SL049 L.J. Medium Slant w/ Ofloxacin (2 µg/ml) for cultivation of <i>Mycobacterium tuberculosis</i> and resistance testing	
SL091 L.J. Medium Slant w/ p-Aminosalicylic acid (0.25 µg/ml) for cultivation of <i>Mycobacterium tuberculosis</i> and resistance testing	
SL092 L.J. Medium Slant w/ p-Aminosalicylic acid (0.5 µg/ml) for cultivation of <i>Mycobacterium tuberculosis</i> and resistance testing	

### SL001 L.J. Medium Slant



Note : Concentrations marked in red are as per WHO recommendation  
On request kit of assorted antibiotic slants as per requirement can be provided.

SL001L - The medium is proved in long tubes (165 mm x 16 mm)

### MT001 Modified Middle brook 7H9 Broth w/Indicator

Growth can be visualized as early as 6 days and on an average of 10-14 days in most of the cases.

Reagent is supplied as single unit ready to use two component system.

1. Middle brook 7H9 Broth base.
2. Modified Selective Enrichment (Lyophilized)

**Interpretation of results :** Magenta pink colored granular deposition is indication of growth. To be confirmed by microscopy and other tests.



1. Positive Test 2. Control

\* : Store between 2- 8°C

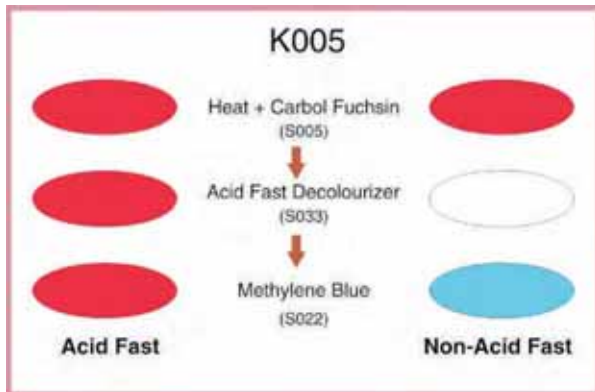
## Staining Kits for Diagnosis of Mycobacteria

### Stains for Acid Fast Staining#

ZN Acid Fast Stains - Kit (contains S033,S005 and S022)	K005-1KT	1kt
Acid Fast Decolourizer	S033-125ML	125ml
Carbol Fuchsin (ZN, Strong)	S005-125ML	125ml
Methylene Blue (Loeffler's)	S022-125ML	125ml
ZN Acid Fast Stains - Kit (contains S033, S005 & S022)	K005L-1KT	1kt
Acid Fast Decolourizer	S033-500ML	500ml
Carbol Fuchsin (ZN,Strong)	S005-500ML	500ml
Methylene Blue (Loeffler's)	S022-500ML	500ml



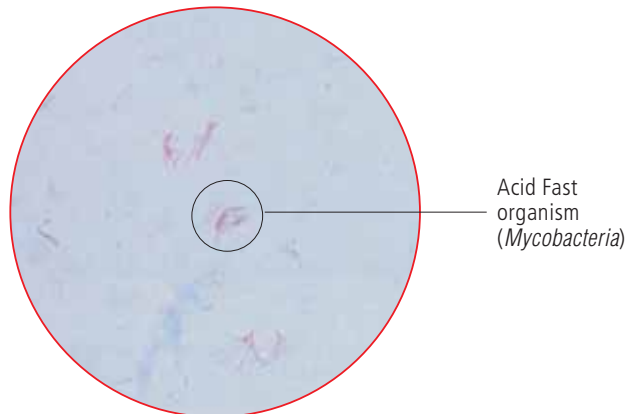
K005 ZN Acid Fast Stains - Kit



### Stains for Mycobacteria Staining#

Fluorescent Stains - Kit for Mycobacteria (contains S042, S043 and S044)	K021-1KT	1kt
Phenolic auramine	S042-125ML	125ml
Mycobacteria decolourizer	S043-125ML	125ml
Potassium permanganate	S044-125ML	125ml
Fluorescent Stains - Kit for Mycobacteria (contains S042, S043 and S044)	K021L-1KT	1kt
Phenolic auramine	S042-500ML	500ml
Mycobacteria decolourizer	S043-500ML	500ml
Potassium permanganate	S044-500ML	500ml
HiCold Stain TB - Kit for Mycobacteria (Kit contains Carbol Fuchsin Solution-S080, Decolourizer-S099, Counter Stain (Loeffler's Methylene Blue)-S081)	K062S-1KT	1kt1
HiCold Stain TB - Kit for Mycobacteria (Kit contains Carbol Fuchsin Solution-S080, Decolourizer-S099, Counter Stain (Loeffler's Methylene Blue)-S081)	K062-1KT	1kt
HiFluo-Phenol Free Stain - kit for Mycobacteria (Kit contains Auramine – Rhodamine solution (Phenol free)-S082, Decolourizer-S099, Potassium Permanganate Solution-S083)	K061-1KT	1kt

# Also Stains are available in powder form



K005 Ziehl Neelsen Acid Fast Stain Kit

# Biochemical Identification Kit for Confirmation of Mycobacteria

## Biochemical Test Kits

### To study Biochemical characteristics used in making Definitive Identification

- **A Confirmatory Biochemical Kit**
- **Conventional Biochemical Tests for detecting *Mycobacteria***
- **Convenient to use**
- **Economical alternative, simple and ready to use**

#### K043-KT\* Nitrate Reduction Test Kit for *Mycobacteria* (For 10 tests)

To study the ability of *Mycobacteria* to reduce nitrite.

Kit contains :

- a. R056, Nitrate buffer in glass tube for *Mycobacteria* - 10 nos.
- b. R060, Nitrate Reagent for *Mycobacteria* - 1 no.

#### K044-KT\* Catalase Test Kit for *Mycobacteria* (For 5 tests)

To study catalase activity of *Mycobacteria*.

Kit contains :

- a. SL122, HiCatalase glass tubes w/ 5ml of L.J. Medium - 5 nos.
- b. R057, Catalase buffer 0.5 ml. (for heat stable catalase study) - 5 nos.
- c. R058, Part A : H<sub>2</sub>O<sub>2</sub> (30%) - 5 ml. Part B : Tween 80 (10%) - 5 ml

#### K045-KT\* Pyrazinamidase Test Kit for *Mycobacteria* (For 10 tests)

To study pyrazinamidase activity of *Mycobacteria*.

Kit contains :

- a. SL121, HiPyrazide glass tube w/ PYZ agar - 10 nos
- b. R059, PYZ reagent - 10 ml -1 no.

#### K046-KT\* Thiophene Carboxylic Hydrazide Test Kit for *Mycobacteria* (For 10 tests)

To study the inhibition of *Mycobacteria* growth by Thiophene-2-Carboxylic Hydrazide, for the differentiation between *M. tuberculosis* and *M. bovis*.

Kit contains :

- a. Ready prepared quadrant media plate MP511; Middlebrook 7H10/7H11 Agar w/TCH - 10nos.  
 In Quadrant I : 0 mcg/ml      Quadrant II : 1 mcg/ml  
 Quadrant III : 5 mcg/ml      Quadrant IV : uninoculated control quadrant.

#### K047-KT\* Niacin Detection Kit w/Syringe

To study the accumulation of niacin for differentiation of *Mycobacterium* species especially *Mycobacterium tuberculosis* / for (presumptive) identification of *Mycobacterium tuberculosis*. Kit contains : 1. Part A : Reagent (1ml) : 10 vials 2. Part B : Reagent (1ml) : 10 vials 3. R055 : Reagent P (4ml) : 1 vial 4. Sterile syringe (1ml capacity) : 2 nos

#### K048-KT\* Niacin Detection Kit Modified w/o Syringe

To study the accumulation of niacin for differentiation of *Mycobacterium* species especially *Mycobacterium tuberculosis* / for (presumptive) identification of *Mycobacterium tuberculosis*. Kit contains : 1. Part A : Reagent (1ml) : 10 vials 2. Part B : Reagent (1ml) : 10 vials 3. R055 : Reagent P (4ml) : 1 vial

K043 Nitrate Reduction Test Kit



1. Control 2. Positive Test

K044 Catalase Test Kit



*M. tuberculosis* H 37rv Catalase Test Kit

K045 Pyrazinamidase Test Kit



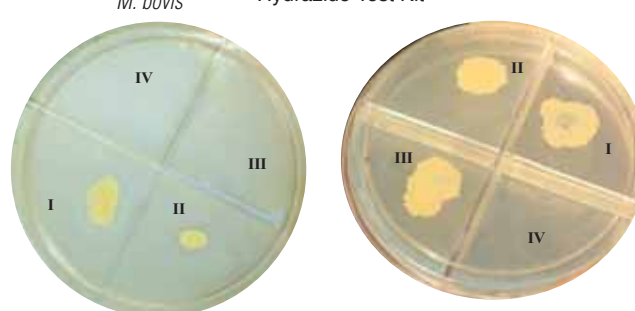
1. Control 2. Positive Test

K048 Niacin Detection Kit



Positive control Negative control Test culture

K046 Thiophene-2- Carboxylic Hydrazide Test Kit



*M. tuberculosis* H 37rv Thiophene Carboxylic Hydrazide Test Kit

Innovation  
begins  
with the  
right  
choices



**HIMEDIA**<sup>®</sup>

## Tuberculosis Diagnosis

