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Технические характеристики

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Acetone Ethanol Decolorant

Cat. 5059

Colouring, fixating and decolouring solutions for bacterial classification according to gram stain.

Practical information

Aplications	Categories
Differentiation	Gram-positive bacteria
Differentiation	Gram-negative bacteria

Industry: Dyes and stains

Principles and uses

The Gram strain procedure differentiates microorganisms into two groups, those which retain the primary dye (Gram-positive) and those which lose the primary dye, due to the structure of cellular wall, and take the colour of the counterstain (Gram-negatives).

The procedure needs four reagents: Primary dye (Oxalate Crystal Violet Solution), Iodine solution (Lugol), Decolorizer (Acetone Ethanol Decolorant) and Counter stain (Safranin Solution).

Formula in g/L

Acetone	300	Ethanol	700

Instructions for use

Prepare a smear and heat-fix it by gentle heating in the flame.

1- Cover the smear with Crystal Violet. Let stand for 1 min.
2- Remove excess by rinsing with tap water.
3- Cover with Lugol and allow standing for 1 min.
4- Decant and rinse with tap water.
5- Decolorize with Acetone Ethanol Decolorant until waste decolorizer were colourless.
6- Rinse with tap water.
7- Counter stain with Safranin Solution for 1 min.
8- Rinse with tap water and air dry.

Examine under an oil immersion objective.

The procedure can be modified according to the user's preferences to achieve a weaker or stronger colour intensity, being carried out by changing the times for staining, washing etc.

Old cultures or smears could give atypical results. That is why cultures of 18-24 hours or recent smears are recommended.

It is very important to control the heat-fixation (few seconds), any excess heating could produce erroneous results.
Highly chlorinated tap water could weak the counter staining.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	3,5 - 7,3

Microbiological test

Microrganisms	Specification
Gram-positive bacteria	Blue-purple colonies

Gram-negative bacteria	Pink-red colonies

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

Acetone Ethanol Decolorant

Cat. 4614

Colouring, fixating and decolouring solutions for bacterial classification according to gram stain.

Practical information

Aplications	Categories
Differentiation	Gram-positive bacteria
Differentiation	Gram-negative bacteria

Industry: Dyes and stains

Principles and uses

The Gram strain procedure differentiates microorganisms into two groups, those which retain the primary dye (Gram-positive) and those which lose the primary dye, due to the structure of cellular wall, and take the colour of the counterstain (Gram-negatives).

The procedure needs four reagents: Primary dye (Oxalate Crystal Violet Solution), Iodine solution (Lugol), Decolorizer (Acetone Ethanol Decolorant) and Counter stain (Safranin Solution).

Formula in g/L

Acetone	300	Ethanol	700

Instructions for use

Prepare a smear and heat-fix it by gentle heating in the flame.

1- Cover the smear with Crystal Violet. Let stand for 1 min.
2- Remove excess by rinsing with tap water.
3- Cover with Lugol and allow standing for 1 min.
4- Decant and rinse with tap water.
5- Decolorize with Acetone Ethanol Decolorant until waste decolorizer were colourless.
6- Rinse with tap water.
7- Counter stain with Safranin Solution for 1 min.
8- Rinse with tap water and air dry.

Examine under an oil immersion objective.

The procedure can be modified according to the user's preferences to achieve a weaker or stronger colour intensity, being carried out by changing the times for staining, washing etc.

Old cultures or smears could give atypical results. That is why cultures of 18-24 hours or recent smears are recommended.

It is very important to control the heat-fixation (few seconds), any excess heating could produce erroneous results.
Highly chlorinated tap water could weak the counter staining.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	3,5 - 7,3

Microbiological test

Microrganisms	Specification
Gram-positive bacteria	Blue-purple colonies

Auramine

Cat. 5005

For use in Morse's fluorescence method for acid-alcohol resistant microorganisms staining. For "in vitro" diagnostic.

Practical information

Aplications	Categories
Differentiation	Acid-fast organisms (AFB)

Industry: Dyes and stains

Principles and uses

The technique for the detection of acid-alcohol resistant microorganisms by fluorescence is similar to the classic Ziehl staining, but in this case carbol fucshin is replaced with a fluorescent dye with added phenol. Fluorescence coloring presents the advantage of greater visibility of a fluorescent microorganism against a dark background. This allows use of lower-magnification lens, which increase the field of view and decrease the time needed to evaluate the preparation.

Formula in g/L

Phenol	5	Isopropanol	100
Water	892,2	Auramine	2,8

Instructions for use

1- Place slides on a staining rack and flood with Auramine for 15 min.
2-Wash gently in running water.
3-Decolorize with a decolorizer for 30 - 60 s.
4-Wash slides gently in running water.
5-Counterstain for 2 min (Potassium permanganate or Thiazine red).
6-Wash gently in running water.
7-Air dry.
8-Examine under a microscope fitted with filter sets.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/r rests	Liquid	N/A	N/A	N/A

Microbiological test

Any interference is not known. Acid, basic or high levels of Chloride or salts in wash water could alter the results.

Microrganisms	Specification
Background with permanganate	Black
Background with thiazine red	Dark red
Acid-fast organisms (AFB)	Bright greenish-yellow fluorescing
Non-acid-fast organisms	Non-fluorescent or slightly fluorescent

Storage

Temp. Min.:2 ºC
Temp. Max.:8 ºC

Auramine

Cat. 4647

For use in Morse's fluorescence method for acid-alcohol resistant microorganisms staining. For "in vitro" diagnostic.

Practical information

Aplications	Categories
Differentiation	Acid-fast organisms (AFB)

Industry: Dyes and stains

Principles and uses

The technique for the detection of acid-alcohol resistant microorganisms by fluorescence is similar to the classic Ziehl staining, but in this case carbol fucshin is replaced with a fluorescent dye with added phenol. Fluorescence coloring presents the advantage of greater visibility of a fluorescent microorganism against a dark background. This allows use of lower-magnification lens, which increase the field of view and decrease the time needed to evaluate the preparation.

Formula in g/L

Phenol	5	Isopropanol	100
Water	892,2	Auramine	2,8

Instructions for use

1- Place slides on a staining rack and flood with Auramine for 15 min.
2- Wash gently in running water.
3- Decolorize with a decolorizer for 30 - 60 s.
4- Wash slides gently in running water.
5- Counterstain for 2 min (Potassium permanganate or Thiazine red).
6- Wash gently in running water.
7- Air dry.
8-E xamine under a microscope fitted with filter sets.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/r rests	Liquid	N/A	N/A	N/A

Microbiological test

Any interference is not known. Acid, basic or high levels of chloride or salts in wash water could alter the results.

Microrganisms	Specification
Background with permanganate	Black
Background with thiazine red	Dark red
Acid-fast organisms (AFB)	Bright greenish-yellow fluorescing
Non-acid-fast organisms	Non-fluorescent or slightly fluorescent

Storage

Temp. Min.:2 ºC
Temp. Max.:8 ºC

Carbol Fucsin

Cat. 4618

For staining microorganisms by Ziehl-Neelsen acid-fast procedure.For “in vitro” diagnostic.

Practical information

Aplications	Categories
Stain reagents	Acid-fast organisms (AFB)

Industry: Dyes and stains

Principles and uses

The acid-fast stain is a differential stain.

Bacteria are classified as acid-fast if they retain the primary stain (carbol fuchsin) after washing with strong acid and appear red, or as non-acid-fast if they lose their colour on washing with acid and counter stained by the methylene blue. Acid-fast property is due to the presence of high contents of a lipid called mycolic acid in the cell wall, that makes penetration by stains extremely difficult. Once the stain has penetrated it cannot be readily removed.

Carbol fuchsin, a red phenolic stain that is soluble in the lipoidal materials that constitute the major portion of the mycobacterial cell wall, does penetrate these bacteria and is retained. Heating drives carbol fuchsin through the lipoidal wall and into cytoplasm.

Formula in g/L

Basic fuchsine	2,5	Phenol	47,5
Water	850	Isopropanol	100

Instructions for use

1. Place slides on a staining rack and place a piece of filter paper, larger than the size of the smear, on each slide.
2. Flood with carbol fuchsin. Heat gently to steaming and allow to steam for 5 min. Do not overheat.
3. Remove the filter paper.
4. Wash gently in running water.
5. Decolorize with a decolorizer with two changes of reagent for 1-2 min until no more red color appears in washing.
6. Wash slides gently in running water.
7. Counterstain with methylene blue for 30 s.
8. Wash gently in running water.
9. Dry over gentle heat.
10. Examine under a microscope.

Quality control

Solubility	Appeareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	N/A

Microbiological test

Note: Any interference is not known. Acid, basic or high levels of Chloride or salts in wash water could alter the results.

Microrganisms	Characteristic reaction
Acid-fast organisms (AFB)	Orange-red colonies
Non-acid-fast organisms	Blue colonies

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

Carbol Fucsin

Cat. 5060

For staining microorganisms by Ziehl-Neelsen acid-fast procedure.For “in vitro” diagnostic.

Practical information

Aplications	Categories
Stain reagents	Acid-fast organisms (AFB)

Industry: Dyes and stains

Principles and uses

The acid-fast stain is a differential stain.

Bacteria are classified as acid-fast if they retain the primary stain (carbol fuchsin) after washing with strong acid and appear red, or as non-acid-fast if they lose their colour on washing with acid and counter stained by the methylene blue. Acid-fast property is due to the presence of high contents of a lipid called mycolic acid in the cell wall, that makes penetration by stains extremely difficult. Once the stain has penetrated it cannot be readily removed.

Carbol fuchsin, a red phenolic stain that is soluble in the lipoidal materials that constitute the major portion of the mycobacterial cell wall, does penetrate these bacteria and is retained. Heating drives carbol fuchsin through the lipoidal wall and into cytoplasm.

Formula in g/L

Basic fuchsine	2,5	Phenol	47,5
Isopropanol	100	Water	850

Instructions for use

1. Place slides on a staining rack and place a piece of filter paper, larger than the size of the smear, on each slide.
2. Flood with carbol fuchsin. Heat gently to steaming and allow to steam for 5 min. Do not overheat.
3. Remove the filter paper.
4. Wash gently in running water.
5. Decolorize with a decolorizer with two changes of reagent for 1-2 min until no more red color appears in washing.
6. Wash slides gently in running water.
7. Counterstain with methylene blue for 30 s.
8. Wash gently in running water.
9. Dry over gentle heat.
10. Examine under a microscope.

Quality control

Solubility	Appeareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	N/A

Microbiological test

Note: Any interference is not known. Acid, basic or high levels of Chloride or salts in wash water could alter the results.

Microrganisms	Characteristic reaction
Acid-fast organisms (AFB)	Orange-red colonies
Non-acid-fast organisms	Blue colonies

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

Clorhidric Alcohol

Cat. 5024

For staining microorganisms by Ziehl-Neelsen acid-fast procedure.For “in vitro” diagnostic.

Practical information

Aplications	Categories
Differentiation	Acid-fast organisms (AFB)

Industry: Dyes and stains

Principles and uses

The acid-fast stain is a differential stain.

Bacteria are classified as acid-fast if they retain the primary stain (carbol fuchsin) after washing with strong acid and appear red, or as non-acid-fast if they lose their colour on washing with acid and counter stained by the methylene blue. Acid-fast property is due to the presence of high contents of a lipid called mycolic acid in the cell wall, that makes penetration by stains extremely difficult. Once the stain has penetrated it cannot be readily removed.

Formula in g/L

Ethanol	950	HCl	50

Instructions for use

1. Place slides on a staining rack and place a piece of filter paper, larger than the size of the smear, on each slide.
2. Flood with carbol fuchsin. Heat gently to steaming and allow to steam for 5 min. Do not overheat.
3. Remove the filter paper.
4. Wash gently in running water.
5. Decolorize with a decolorizer with two changes of reagent for 1-2 min until no more red color appears in washing.
6. Wash slides gently in running water.
7. Counterstain with methylene blue for 30 s.
8. Wash gently in running water.
9. Dry over gentle heat.
10. Examine under a microscope.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	0,5 - 2

Microbiological test

Any interference is not known. Acid, basic or high levels of Chloride or salts in wash water could alter the results.

Microrganisms	Characteristic reaction
Acid-fast organisms (AFB)	Orange-red colonies
Non-acid-fast organisms	Blue colonies

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

Clorhidric Alcohol

Cat. 4611

For staining microorganisms by Ziehl-Neelsen acid-fast procedure.For “in vitro” diagnostic.

Practical information

Aplications	Categories
Differentiation	Acid-fast organisms (AFB)

Industry: Dyes and stains

Principles and uses

The acid-fast stain is a differential stain.

Bacteria are classified as acid-fast if they retain the primary stain (carbol fuchsin) after washing with strong acid and appear red, or as non-acid-fast if they lose their colour on washing with acid and counter stained by the methylene blue. Acid-fast property is due to the presence of high contents of a lipid called mycolic acid in the cell wall, that makes penetration by stains extremely difficult. Once the stain has penetrated it cannot be readily removed.

Formula in g/L

Ethanol	950	HCl	50

Instructions for use

1. Place slides on a staining rack and place a piece of filter paper, larger than the size of the smear, on each slide.
2. Flood with carbol fuchsin. Heat gently to steaming and allow to steam for 5 min. Do not overheat.
3. Remove the filter paper.
4. Wash gently in running water.
5. Decolorize with a decolorizer with two changes of reagent for 1-2 min until no more red color appears in washing.
6. Wash slides gently in running water.
7. Counterstain with methylene blue for 30 s.
8. Wash gently in running water.
9. Dry over gentle heat.
10. Examine under a microscope.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	0,5 - 2

Microbiological test

Any interference is not known. Acid, basic or high levels of Chloride or salts in wash water could alter the results.

Microrganisms	Characteristic reaction
Acid-fast organisms (AFB)	Orange-red colonies
Non-acid-fast organisms	Blue colonies

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

CondaSafe Stain

Cat. 4687

Used for detecting double-strand DNA and single-stranded RNA.

Practical information

Industry: Molecular biology / Reactivos para tinción

Principles and uses

CondaSafe Stain is a new nucleic acid stain which can be used as a safer alternative to the traditional ethidium bromide for detecting nucleic acids in agarose gels. It is as sensitive as ethidium bromide and can be used exactly in the same way in agarose gel electrophoresis. Conda Safe Nucleic Acid Staining Solution emits green fluorescence when bound to DNA or RNA. It has two secondary fluorescence excitation peaks (˜270 nm and ˜290 nm) and one strong excitation peak at 490 nm. The fluorescence emission is similar to ethidium bromide when bound to DNA at ˜530 nm. Thus Conda Safe Nucleic Acid Staining Solution is compatible with wide variety of gel reading instruments.

Instructions for use

1- Prepare 70-100 ml of an agarose gel solution (concentration from 0.8-3.0%) and heat until the solution is completely clear and no small floating particles are visible.
2- Let the solution cool down and add 2-3 µl of CONDA Safe Nucleic Acid Staining Solution to the agarose gel solution.
3- Mix gently and cast into the tray.
4- When the gel is solid, load the samples and perform electrophoresis.
5- Detect the bands under an UV trans-illuminator.

Note: 1 mL of CONDA Safe Nucleic Acid Staining Solution is sufficient for 17-25 liters of agarose. The thickness of the gel should be <0.5 cm. CONDA Safe Nucleic Acid Staining Solution is non-carcinogenic but may irritate skin and eyes. Please wear gloves while handling.

Post-Staining:
- The post-staining solution may be used 2-3 times. Staining solution to be reused should preferably be stored at room temperature in the dark.
- For <0.5 cm thick agarose gels, 10-15 µl of stain should be used per 100 ml of buffer.
- Optimal staining time (5-60 minutes) and the amount of stain may depend on the thickness of the gel and the percentage of agarose.

Storage

Temp. Min.:4 ºC
Temp. Max.:25 ºC

Gram Stain

Cat. 4600

Colouring, fixating and decolouring solutions for bacterial classification according to gram stain.

Practical information

Aplications	Categories
Differentiation	Gram-positive bacteria
Differentiation	Gram-negative bacteria

Industry: Dyes and stains

Principles and uses

The Gram Stain procedure differentiates microorganisms into two groups, those which retain the primary dye (Gram-positive) and those which lose the primary dye, due to the structure of its cellular wall, and take the colour of the counterstain (Gram-negatives).

The procedure needs four reagents: Primary dye (Crystal Violet Solution), Iodine solution (Lugol), Decolorizer (Acetone Ethanol Decolorant) and a counter stain (Safranin Solution).

Formula in g/L

Acetone Ethanol Decolorant			
Ethanol	970	Acetone	30
Lugol			
Water	990	Iodine	3,5
Potassium iodide	6,5		
Oxalate Crystal Violet Solution			
Ethanol	200	Water	787
Ammonium oxalate	7,5	Crystal violet	5,5
Safranin Solution			
Safranin	4,5	Water	795,5
Ethanol	200		

Instructions for use

Prepare a smear and heat-fix it by gentle heating in the flame.

1- Cover the smear with Crystal Violet. Let stand for 1 min.
2- Remove excess by rinsing with tap water.
3- Cover with Lugol and allow standing for 1 min.
4- Decant and rinse with tap water.
5- Decolorize with Acetone Ethanol Decolorant until waste decolorizer were colourless.
6- Rinse with tap water.
7- Counter stain with Safranin Solution for 1 min.
8- Rinse with tap water and air dry.

Examine under an oil immersion objective.

The procedure can be modified according to the user’s preferences to achieve a weaker or stronger colour intensity, being carried out by changing the times for staining, washing etc.

Old cultures or smears could give atypical results. That is why cultures of 18-24 hours or recent smears are recommended.

It is very important to control the heat-fixation (few seconds), any excess heating could produce erroneous results.

Highly chlorinated tap water could weak the counter staining.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	N/A

Microbiological test

Microrganisms	Specification
Gram-positive bacteria	Dark violet colonies
Gram-negative bacteria	Orange-red colonies

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

Lugol

Cat. 5061

Colouring, fixating and decolouring solutions for bacterial classification according to gram stain.

Practical information

Aplications	Categories
Detection	Gram-positive bacteria
Detection	Gram-negative bacteria

Industry: Dyes and stains

Principles and uses

The Gram strain procedure differentiates microorganisms into two groups, those which retain the primary dye (Gram-positive) and those which lose the primary dye, due to the structure of cellular wall, and take the colour of the counterstain (Gram-negatives).

The procedure needs four reagents: Primary dye (Oxalate Crystal Violet Solution), Iodine solution (Lugol), Decolorizer (Acetone Ethanol Decolorant) and Counter stain (Safranin Solution).

Formula in g/L

Iodine	4	Potassium iodide	7
Water	989		

Instructions for use

Prepare a smear and heat-fix it by gentle heating in the flame.

1- Cover the smear with Crystal Violet. Let stand for 1 min.
2- Remove excess by rinsing with tap water.
3- Cover with Lugol and allow standing for 1 min.
4- Decant and rinse with tap water.
5- Decolorize with Acetone Ethanol Decolorant until waste decolorizer were colourless.
6- Rinse with tap water.
7- Counter stain with Safranin Solution for 1 min.
8- Rinse with tap water and air dry.

Examine under an oil immersion objective.

The procedure can be modified according to the user's preferences to achieve a weaker or stronger colour intensity, being carried out by changing the times for staining, washing etc.

Old cultures or smears could give atypical results. That is why cultures of 18-24 hours or recent smears are recommended.

It is very important to control the heat-fixation (few seconds), any excess heating could produce erroneous results.
Highly chlorinated tap water could weak the counter staining.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	N/A

Microbiological test

Note: Any interference is not known. Acid, basic or high levels of Chloride or salts in wash water could alter the results.

Microrganisms	Characteristic reaction
Gram-positive bacteria	Blue to purple colonies
Gram-negative bacteria	Pink to red colonies

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

Lugol

Cat. 4612

Colouring, fixating and decolouring solutions for bacterial classification according to gram stain.

Practical information

Aplications	Categories
Detection	Gram-positive bacteria
Detection	Gram-negative bacteria

Industry: Dyes and stains

Principles and uses

The Gram strain procedure differentiates microorganisms into two groups, those which retain the primary dye (Gram-positive) and those which lose the primary dye, due to the structure of cellular wall, and take the colour of the counterstain (Gram-negatives).

The procedure needs four reagents: Primary dye (Oxalate Crystal Violet Solution), Iodine solution (Lugol), Decolorizer (Acetone Ethanol Decolorant) and Counter stain (Safranin Solution).

Formula in g/L

Iodine	4	Potassium iodide	7
Water	989		

Instructions for use

Prepare a smear and heat-fix it by gentle heating in the flame.

1- Cover the smear with Crystal Violet. Let stand for 1 min.
2- Remove excess by rinsing with tap water.
3- Cover with Lugol and allow standing for 1 min.
4- Decant and rinse with tap water.
5- Decolorize with Acetone Ethanol Decolorant until waste decolorizer were colourless.
6- Rinse with tap water.
7- Counter stain with Safranin Solution for 1 min.
8- Rinse with tap water and air dry.

Examine under an oil immersion objective.

The procedure can be modified according to the user's preferences to achieve a weaker or stronger colour intensity, being carried out by changing the times for staining, washing etc.

Old cultures or smears could give atypical results. That is why cultures of 18-24 hours or recent smears are recommended.

It is very important to control the heat-fixation (few seconds), any excess heating could produce erroneous results.
Highly chlorinated tap water could weak the counter staining.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	N/A

Microbiological test

Note: Any interference is not known. Acid, basic or high levels of Chloride or salts in wash water could alter the results.

Microrganisms	Characteristic reaction
Gram-positive bacteria	Blue to purple colonies
Gram-negative bacteria	Pink to red colonies

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

Methylene Blue

Cat. 5058

For staining microorganisms by Ziehl-Neelsen acid-fast procedure.For “in vitro” diagnostic.

Practical information

Aplications	Categories
Stain reagents	Acid-fast organisms (AFB)

Industry: Dyes and stains

Principles and uses

The acid-fast stain is a differential stain.

Bacteria are classified as acid-fast if they retain the primary stain (carbol fuchsin) after washing with strong acid and appear red, or as non-acid-fast if they lose their colour on washing with acid and counter stained by the methylene blue. Acid-fast property is due to the presence of high contents of a lipid called mycolic acid in the cell wall, that makes penetration by stains extremely difficult. Once the stain has penetrated it cannot be readily removed.

Formula in g/L

Ethanol	300	Methylene blue	5
Phenol	10	Water	685

Instructions for use

1. Place slides on a staining rack and place a piece of filter paper, larger than the size of the smear, on each slide.
2. Flood with carbol fuchsin. Heat gently to steaming and allow to steam for 5 min. Do not overheat.
3. Remove the filter paper.
4. Wash gently in running water.
5. Decolorize with a decolorizer with two changes of reagent for 1-2 min until no more red color appears in washing.
6. Wash slides gently in running water.
7. Counterstain with methylene blue for 30 s.
8. Wash gently in running water.
9. Dry over gentle heat.
10. Examine under a microscope.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	N/A

Microbiological test

Note: Any interference is not known. Acid, basic or high levels of Chloride or salts in wash water could alter the results.

Microrganisms	Characteristic reaction
Acid-fast organisms (AFB)	Orange-red colonies
Non-acid-fast organisms	Blue colonies

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

Methylene Blue

Cat. 4603

For staining microorganisms by Ziehl-Neelsen acid-fast procedure.For “in vitro” diagnostic.

Practical information

Aplications	Categories
Stain reagents	Acid-fast organisms (AFB)

Industry: Dyes and stains

Principles and uses

The acid-fast stain is a differential stain.

Bacteria are classified as acid-fast if they retain the primary stain (carbol fuchsin) after washing with strong acid and appear red, or as non-acid-fast if they lose their colour on washing with acid and counter stained by the methylene blue. Acid-fast property is due to the presence of high contents of a lipid called mycolic acid in the cell wall, that makes penetration by stains extremely difficult. Once the stain has penetrated it cannot be readily removed.

Formula in g/L

Ethanol	300	Methylene blue	5
Phenol	10	Water	685

Instructions for use

1. Place slides on a staining rack and place a piece of filter paper, larger than the size of the smear, on each slide.
2. Flood with carbol fuchsin. Heat gently to steaming and allow to steam for 5 min. Do not overheat.
3. Remove the filter paper.
4. Wash gently in running water.
5. Decolorize with a decolorizer with two changes of reagent for 1-2 min until no more red color appears in washing.
6. Wash slides gently in running water.
7. Counterstain with methylene blue for 30 s.
8. Wash gently in running water.
9. Dry over gentle heat.
10. Examine under a microscope.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	N/A

Microbiological test

Note: Any interference is not known. Acid, basic or high levels of Chloride or salts in wash water could alter the results.

Microrganisms	Characteristic reaction
Acid-fast organisms (AFB)	Orange-red colonies
Non-acid-fast organisms	Blue colonies

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

Oxalate Crystal Violet

Cat. 4610

For use in the Gram's Staining method for micro organisms.For "in vitro" diagnostic

Practical information

Aplications	Categories
Detection	Gram-positive bacteria
Detection	Gram-negative bacteria

Industry: Dyes and stains

Principles and uses

The Gram strain procedure differentiates microorganisms into two groups, those which retain the primary dye (Gram-positive) and those which lose the primary dye, due to the structure of cellular wall, and take the colour of the counterstain (Gram-negatives).

The procedure needs four reagents: Primary dye (Oxalate Crystal Violet Solution), Iodine solution (Lugol), Decolorizer (Acetone Ethanol Decolorant) and Counter stain (Safranin Solution).

Formula in g/L

Ammonium oxalate	7,5	Ethanol	200
Water	787	Crystal Violet, Cl nº 42 555	5,5

Instructions for use

Prepare a smear and heat-fix it by gentle heating in the flame.

1- Cover the smear with Crystal Violet. Let stand for 1 min.
2- Remove excess by rinsing with tap water.
3- Cover with Lugol and allow standing for 1 min.
4- Decant and rinse with tap water.
5- Decolorize with Acetone Ethanol Decolorant until waste decolorizer were colourless.
6- Rinse with tap water.
7- Counter stain with Safranin Solution for 1 min.
8- Rinse with tap water and air dry.

Examine under an oil immersion objective.

The procedure can be modified according to the user's preferences to achieve a weaker or stronger colour intensity, being carried out by changing the times for staining, washing etc.

Old cultures or smears could give atypical results. That is why cultures of 18-24 hours or recent smears are recommended.

It is very important to control the heat-fixation (few seconds), any excess heating could produce erroneous results.
Highly chlorinated tap water could weak the counter staining.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	N/A

Microbiological test

Note: Any interference is not known. Acid, basic or high levels of Chloride or salts in wash water could alter the results.

Microrganisms	Characteristic reaction
Gram-positive bacteria	Blue-purple colonies
Gram-negative bacteria	Pink-red colonies

Storage

Temp. Min.:15 ºC
Temp. Max.:25 ºC

Oxalate Crystal Violet Solution

Cat. 5062

Colouring, fixating and decolouring solutions for bacterial classification according to gram stain.

Practical information

Aplications	Categories
Differentiation	Gram-positive bacteria
Differentiation	Gram-negative bacteria

Principles and uses

The Gram strain procedure differentiates microorganisms into two groups, those which retain the primary dye (Gram-positive) and those which lose the primary dye, due to the structure of cellular wall, and take the colour of the counterstain (Gram-negatives).

The procedure needs four reagents: Primary dye (Oxalate Crystal Violet Solution), Iodine solution (Lugol), Decolorizer (Acetone Ethanol Decolorant) and Counter stain (Safranin Solution).

Formula in g/L

Ammonium oxalate	7,5	Crystal violet	5,5
Ethanol	200	Water	787

Instructions for use

Prepare a smear and heat-fix it by gentle heating in the flame.

1- Cover the smear with Crystal Violet. Let stand for 1 min.
2- Remove excess by rinsing with tap water.
3- Cover with Lugol and allow standing for 1 min.
4- Decant and rinse with tap water.
5- Decolorize with Acetone Ethanol Decolorant until waste decolorizer were colourless.
6- Rinse with tap water.
7- Counter stain with Safranin Solution for 1 min.
8- Rinse with tap water and air dry.

Examine under an oil immersion objective.

The procedure can be modified according to the user’s preferences to achieve a weaker or stronger colour intensity, being carried out by changing the times for staining, washing etc.

Old cultures or smears could give atypical results. That is why cultures of 18-24 hours or recent smears are recommended.

It is very important to control the heat-fixation (few seconds), any excess heating could produce erroneous results.
Highly chlorinated tap water could weak the counter staining.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	N/A

Microbiological test

Microrganisms	Specification
Gram-positive bacteria	Dark violet colonies

Gram-negative bacteria	Orange-red colonies

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

Potassium permanganate

Cat. 4655

For use in Morse’s fluorescence method for acid-alcohol resistant microorganisms staining. For “in vitro” diagnostic.

Practical information

Aplications	Categories
Differentiation	Acid-fast organisms (AFB)

Industry: Dyes and stains

Principles and uses

The technique for the detection of acid-alcohol resistant microorganisms by fluorescence is similar to the classic Ziehl staining, but in this case carbol fucshin is replaced with a fluorescent dye with added phenol. Fluorescence coloring presents the advantage of greater visibility of a fluorescent microorganism against a dark background. This allows use of lower-magnification lens, which increase the field of view and decrease the time needed to evaluate the preparation.

Formula in g/L

Water	955	Potassium permanganate	5

Instructions for use

1- Place slides on a staining rack and flood with Auramine for 15 min.
2-Wash gently in running water.
3-Decolorize with a decolorizer for 30 - 60 s.
4-Wash slides gently in running water.
5-Counterstain for 2 min (Potassium permanganate or Thiazine red).
6-Wash gently in running water.
7-Air dry.
8-Examine under a microscope fitted with filter sets.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	N/A

Microbiological test

Any interference is not known. Acid, basic or high levels of Chloride or salts in wash water could alter the results.

Microrganisms	Specification
Background with permanganate	Black
Background with thiazine red	Dark red
Acid-fast organisms (AFB)	Bright greenish-yellow fluorescing
Non-acid-fast organisms	Non-fluorescent or slightly fluorescent

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

Potassium permanganate

Cat. 5014

For use in Morse’s fluorescence method for acid-alcohol resistant microorganisms staining. For “in vitro” diagnostic.

Practical information

Aplications	Categories
Differentiation	Acid-fast organisms (AFB)

Industry: Dyes and stains

Principles and uses

The technique for the detection of acid-alcohol resistant microorganisms by fluorescence is similar to the classic Ziehl staining, but in this case carbol fucshin is replaced with a fluorescent dye with added phenol. Fluorescence coloring presents the advantage of greater visibility of a fluorescent microorganism against a dark background. This allows use of lower-magnification lens, which increase the field of view and decrease the time needed to evaluate the preparation.

Formula in g/L

Water	955	Potassium permanganate	5

Instructions for use

1- Place slides on a staining rack and flood with Auramine for 15 min.
2-Wash gently in running water.
3-Decolorize with a decolorizer for 30 - 60 s.
4-Wash slides gently in running water.
5-Counterstain for 2 min (Potassium permanganate or Thiazine red).
6-Wash gently in running water.
7-Air dry.
8-Examine under a microscope fitted with filter sets.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	N/A

Microbiological test

Any interference is not known. Acid, basic or high levels of Chloride or salts in wash water could alter the results.

Microrganisms	Specification
Background with permanganate	Black
Background with thiazine red	Dark red
Acid-fast organisms (AFB)	Bright greenish-yellow fluorescing
Non-acid-fast organisms	Non-fluorescent or slightly fluorescent

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

Safranin Solution

Cat. 4616

Colouring, fixating and decolouring solutions for bacterial classification according to gram stain.

Practical information

Aplications	Categories
Differentiation	Gram-positive bacteria
Differentiation	Gram-negative bacteria

Industry: Dyes and stains

Principles and uses

The Gram strain procedure differentiates microorganisms into two groups, those which retain the primary dye (Gram-positive) and those which lose the primary dye, due to the structure of cellular wall, and take the colour of the counterstain (Gram-negatives).

The procedure needs four reagents: Primary dye (Oxalate Crystal Violet Solution), Iodine solution (Lugol), Decolorizer (Acetone Ethanol Decolorant) and Counter stain (Safranin Solution).

Formula in g/L

Ethanol	200	Safranin	4,5
Water	795,5		

Instructions for use

Prepare a smear and heat-fix it by gentle heating in the flame.

1- Cover the smear with Crystal Violet. Let stand for 1 min.
2- Remove excess by rinsing with tap water.
3- Cover with Lugol and allow standing for 1 min.
4- Decant and rinse with tap water.
5- Decolorize with Acetone Ethanol Decolorant until waste decolorizer were colourless.
6- Rinse with tap water.
7- Counter stain with Safranin Solution for 1 min.
8- Rinse with tap water and air dry.

Examine under an oil immersion objective.

The procedure can be modified according to the user's preferences to achieve a weaker or stronger colour intensity, being carried out by changing the times for staining, washing etc.

Old cultures or smears could give atypical results. That is why cultures of 18-24 hours or recent smears are recommended.

It is very important to control the heat-fixation (few seconds), any excess heating could produce erroneous results.
Highly chlorinated tap water could weak the counter staining.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	N/A

Microbiological test

Microrganisms	Specification

Gram-positive bacteria	Blue-purple colonies
Gram-negative bacteria	Pink-red colonies

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

Safranin Solution

Cat. 5063

Colouring, fixating and decolouring solutions for bacterial classification according to gram stain.

Practical information

Aplications	Categories
Differentiation	Gram-positive bacteria
Differentiation	Gram-negative bacteria

Industry: Dyes and stains

Principles and uses

The Gram strain procedure differentiates microorganisms into two groups, those which retain the primary dye (Gram-positive) and those which lose the primary dye, due to the structure of cellular wall, and take the colour of the counterstain (Gram-negatives).

The procedure needs four reagents: Primary dye (Oxalate Crystal Violet Solution), Iodine solution (Lugol), Decolorizer (Acetone Ethanol Decolorant) and Counter stain (Safranin Solution).

Formula in g/L

Ethanol	200	Safranin	4,5
Water	795,5		

Instructions for use

Prepare a smear and heat-fix it by gentle heating in the flame.

1- Cover the smear with Crystal Violet. Let stand for 1 min.
2- Remove excess by rinsing with tap water.
3- Cover with Lugol and allow standing for 1 min.
4- Decant and rinse with tap water.
5- Decolorize with Acetone Ethanol Decolorant until waste decolorizer were colourless.
6- Rinse with tap water.
7- Counter stain with Safranin Solution for 1 min.
8- Rinse with tap water and air dry.

Examine under an oil immersion objective.

The procedure can be modified according to the user's preferences to achieve a weaker or stronger colour intensity, being carried out by changing the times for staining, washing etc.

Old cultures or smears could give atypical results. That is why cultures of 18-24 hours or recent smears are recommended.

It is very important to control the heat-fixation (few seconds), any excess heating could produce erroneous results.
Highly chlorinated tap water could weak the counter staining.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	N/A

Microbiological test

Microrganisms	Specification

Gram-positive bacteria	Blue-purple colonies
Gram-negative bacteria	Pink-red colonies

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

Thiazine Red

Cat. 4651

For use in Morse’s fluorescence method for acid-alcohol resistant microorganisms staining. For “in vitro” diagnostic.

Practical information

Aplications	Categories
Differentiation	Acid-fast organisms (AFB)

Industry: Dyes and stains

Principles and uses

The technique for the detection of acid-alcohol resistant microorganisms by fluorescence is similar to the classic Ziehl staining, but in this case carbol fucshin is replaced with a fluorescent dye with added phenol. Fluorescence coloring presents the advantage of greater visibility of a fluorescent microorganism against a dark background. This allows use of lower-magnification lens, which increase the field of view and decrease the time needed to evaluate the preparation.

Formula in g/L

Phenol	1	Water	949
Thiazine red	50		

Instructions for use

1- Place slides on a staining rack and flood with Auramine for 15 min.
2-Wash gently in running water.
3-Decolorize with a decolorizer for 30 - 60 s.
4-Wash slides gently in running water.
5-Counterstain for 2 min (Potassium permanganate or Thiazine red).
6-Wash gently in running water.
7-Air dry.
8-Examine under a microscope fitted with filter sets.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	N/A

Microbiological test

Any interference is not known. Acid, basic or high levels of Chloride or salts in wash water could alter the results.

Microrganisms	Specification
Background with permanganate	Black
Background with thiazine red	Dark red
Acid-fast organisms (AFB)	Bright greenish-yellow fluorescing
Non-acid-fast organisms	Non-fluorescent or slightly fluorescent

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

Thiazine Red

Cat. 4632

For use in Morse’s fluorescence method for acid-alcohol resistant microorganisms staining. For “in vitro” diagnostic.

Practical information

Aplications	Categories
Differentiation	Acid-fast organisms (AFB)

Industry: Dyes and stains

Principles and uses

The technique for the detection of acid-alcohol resistant microorganisms by fluorescence is similar to the classic Ziehl staining, but in this case carbol fucshin is replaced with a fluorescent dye with added phenol. Fluorescence coloring presents the advantage of greater visibility of a fluorescent microorganism against a dark background. This allows use of lower-magnification lens, which increase the field of view and decrease the time needed to evaluate the preparation.

Formula in g/L

Phenol	1	Water	949
Thiazine red	50		

Instructions for use

1- Place slides on a staining rack and flood with Auramine for 15 min.
2-Wash gently in running water.
3-Decolorize with a decolorizer for 30 - 60 s.
4-Wash slides gently in running water.
5-Counterstain for 2 min (Potassium permanganate or Thiazine red).
6-Wash gently in running water.
7-Air dry.
8-Examine under a microscope fitted with filter sets.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Liquid	N/A	N/A	N/A

Microbiological test

Any interference is not known. Acid, basic or high levels of Chloride or salts in wash water could alter the results.

Microrganisms	Specification
Background with permanganate	Black
Background with thiazine red	Dark red
Acid-fast organisms (AFB)	Bright greenish-yellow fluorescing
Non-acid-fast organisms	Non-fluorescent or slightly fluorescent

Storage

Temp. Min.:15 ºC
Temp. Max.:30 ºC

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