



Gram Stain: (Product Code: KPG-Gr1/1)

For In Vitro Diagnostic Use

Gram staining is a fundamental microbiological technique used to classify bacteria into two major groups: Gram-positive and Gram-negative. Gram Stain is useful and essential for diagnosis and microbiological research.

Preparing the Working Solution:

This product is ready to use.

Limitations

While Gram staining is a useful and accurate method, sometimes bacteria may appear as gram-variable if the smear is prepared from an old culture or the staining procedure is not performed accurately.

Quality Control: Verify staining properties with known positive and negative bacteria as controls.

Staining Procedure

The process involves several key steps :

1. **Smear preparation:** prepare a smear of a sample bacteria on a slide and fix it by passing it from the tip of the flame.

2- covering the smear with Crystal Violet stain:

Apply crystal violet dye to a heat-fixed smear of bacteria and incubate for 1 minute. (Cover the entire surface of the smear). Both Gram-positive and Gram-negative bacteria will appear purple at this stage.

3- **Smear washing:** Wash the smear with a gentle stream of water.

4- Covering the smear with Mordant (Iodine stain):

Add Gram's iodine solution and incubate for 1 minute, which forms a complex with crystal violet (crystal violet – iodine complex, and remains purple.

5- **Smear washing:** Wash the smear with a gentle stream of water.

6- **Decolorizing the smear:** Add decolorization solution and incubate for 5-10 seconds. Gram-positive bacteria retain the purple color due to the remaining crystal violet–iodine (CVI) complex, while Gram-negative bacteria lose the CVI complex and become colorless.

7- **Smear washing:** Wash the smear with a gentle stream of water.

8- **Covering the smear with Safranin stain:** Cover the entire smear with Safranin stain for 30 seconds. This stain colorizes Gram-negative bacteria pink or red, while Gram-positive bacteria remain purple.

9- **Smear washing:** Wash the smear with a gentle stream of water.

10- **Smear drying:** After drying the smear at room temperature, it is seen with microscope.

Storage and Stability

Store the Gram Stain in a tightly closed container at 15-25°C.

Protect from light.

Use before the expiration date printed on the label.

Safety Information

For in vitro diagnostic use only.

Refer to the Safety Data Sheet (SDS) for detailed safety information.

Wear appropriate personal protective equipment (gloves, lab coat, eye protection) when handling the stain.

Dispose of used staining solutions according to local regulations

Other products

Retic stain

Giemsa stain

H&E stain

ELISA kits for cytokine measure

Kits for measuring oxidant and anti-oxidants

Column for DNA and protein purification

Kits for DNA and RNA extractions

Materials for cell cultures (such as FBS and RPMI media)

Methanol detection kit

Recombinant proteins

Microtubes for Real-Time PCR machines (such as ABI, Rotorgene, MIC)

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