



## 1A-286

Crystal purple, crist.

## 1B-345

Crystal purple

In-vitro diagnostic agent

### Description

The products 1A-286 and 1B-345 are dry dyes for the preparation of a staining solution for professional users in histology.

The product 1A-286 is supplied in 5 different pack sizes: 1A-286.00010 (10g bottle), 1A-286.00025 (25g bottle), 1A-286.00100 (100g bottle), 1A-286.00250 (250g bottle) and 1A-286.01000 (1kg bucket).

The product 1B-345 is supplied in 4 different pack sizes: 1B-345.00010 (10g bottle), 1B- 345.00025 (25g bottle), 1B-345.00100 (100g bottle), 1B-345.01000 (1kg bucket).

### Main components

Crystal purple (CI 42555)

### Purpose

The dyes "crystal purple, crist." and "crystal purple" are used for cell diagnostics for the examination of microbacteria of human origin. These are dry dyes for the production of dyeing solution for professional users. They can be used for staining microscopic specimens in microbiology to distinguish bacterial targets (differential Gram staining) and allow rapid differentiation of bacteria into Gram-positive and Gram-negative.

### Sample material and sample preparation

Sampling may only be carried out by qualified personnel. All samples must be processed with state-of-the-art technology. All samples must be clearly labelled.

Sample material: Smears of bacteriological material after air drying and heat fixation, such as sputum, fine needle aspiration biopsy (FNAB) smears, rinsing fluids, imprints, effusions, pus, exudates, liquid and solid enrichment cultures.

### Test principle

The cell walls of the bacteria determine the staining behaviour of the bacteria. The cell walls of gram-positive bacteria are based on a multilayered murein scaffold with crosswise arranged polysaccharides, which can be easily stained with the dye crystal purple. In contrast, gram-negative bacteria have a cell wall consisting of a single-layered murein scaffold (thin polysaccharide layer), which makes staining with gram



dyes impossible and the dye is released again. Identification of the chemical composition of the membrane influences the drug treatment. The determination of the bacterial strain (gram-negative or gram-positive) enables the choice of the most effective antibiotic. Crystal purple can be used to stain amyloids and chromosomes at the same time.

## Staining

The dye is dissolved in 20% ethanol with 0.8% ammonium oxalate. For staining, the samples must be immersed and agitated in the solution and then drain well. The samples are washed under running tap water. Saffronine solution is suitable as a counterstain. Gram-positive bacteria turn blue-purple, and gram-negative bacteria appear red to purple.

To ensure the differentiability of the target structures, suitable control specimens should be kept along with the staining.

The usual staining protocols known from literature must be used.  
Staining may only be carried out by qualified personnel.

## Result

Gram-positive microorganisms	blue-purple
Gram-negative microorganisms	pink to red

## Precautionary measures

When removing the product, care must be taken to avoid contamination of the storage vessel. Once the solution has been removed, it must not be returned to the canister. If turbidity or solids appear, discard the product. The product is intended for single use and must not be reused.

## Storage and shelf life

Store the unopened containers in a dry place at 15 to 25 °C, avoiding direct sunlight.

The shelf life is 2 years. See also the best-before date (BBD) on the label. Once the containers have been opened, the shelf life corresponds to the best-before date, as long as the storage conditions are observed and the solution is handled properly.

## Safety notice

If any serious incidents occur in connection with the product, please report them to the manufacturer and the national authority.

## Literature

Romeis, Mikroskopische Technik, Editors: Maria Mulisch, Ulrich Welsch, 2010, Springer Spektrum, 18th edition