

Saturated Crystal Violet Ethanol Solution

Cat. No.: C1513154 | Pack size: 100 mL | Storage: Room temperature

Overview

Crystal violet is a basic dye that binds to DNA in the cell nucleus and is mainly used for nuclear staining. Saturated Crystal Violet Ethanol Solution is commonly used in histology or cytology workflows and typically requires dilution or use with other staining solutions depending on the method.

Methyl violet-stained sections should be mounted with a water-soluble mounting medium when polychromatic red staining properties are required, because local dehydration can affect the staining properties.

Key Features

- Basic dye for nuclear staining
- Suitable for paraffin sections, frozen sections, and cultured cell samples after appropriate preparation
- Can be used directly or as part of a combined staining workflow
- Room-temperature storage
- For microscopy research use only

Product Specifications

Parameter	Specification	Notes
Product name	Saturated Crystal Violet Ethanol Solution	Synonyms: saturated gentian violet ethanol solution; saturated methyl violet 10B ethanol solution
Cat. No.	C1513154	Available pack size: 100 mL
CAS No.	548-62-9	Basic Violet 3
Grade	BioReagent; Biological Stain; for microscopy	Research use only
Storage	Room temperature	Shelf life: 12 months
Expected result	Nuclei deep purple	Staining time should be optimized

Product Contents & Storage

Cat. No.	Component	Size	Storage
C1513154	Saturated Crystal Violet Ethanol Solution	100 mL	RT

Shelf life: Stable for 12 months at room temperature.

Materials Required But Not Supplied

Item	Recommended Specification	Purpose
Glass slides / cell culture samples	Prepared paraffin sections, frozen sections, or fixed cultured cells	Sample preparation
Xylene and graded ethanol	For paraffin sections	Dewaxing and rehydration
4% paraformaldehyde	For cultured cells	Fixation
Distilled water or tap water	Fresh	Rinsing
Microscope and camera	Bright-field microscope	Observation and imaging

Preparation Before Use

1. For paraffin sections, dewax completely and rehydrate through graded ethanol to water.
2. For frozen sections, soak directly in distilled water before staining.
3. For cultured cells, fix with 4% paraformaldehyde for at least 10 min and wash twice with distilled water before staining.

Protocol

1. Paraffin sections: dewax in xylene for 5-10 min, replace with fresh xylene and dewax again for 5-10 min, then sequentially place sections in absolute ethanol for 5 min, 90% ethanol for 2 min, 70% ethanol for 2 min, and distilled water for 2 min.
2. Frozen sections: soak directly in distilled water for 2 min.
3. Cultured cells: fix with 4% paraformaldehyde for at least 10 min, then wash with distilled water twice for 2 min each.

4. Place prepared samples into Crystal Violet Staining Solution. Adjust staining time based on sample type and required signal intensity.
5. After staining, wash thoroughly with distilled water or tap water before observation and photography.

Expected Results

Target / Structure	Expected Color
Cell nuclei	Deep purple
Background	Depends on sample and washing conditions

Safety & Precautions

- When using this reagent for the first time, perform a pilot test with 1-2 samples to confirm staining effect and compatibility.
- Crystal violet is slightly hazardous to humans; take appropriate protective measures during operation.
- Handle according to standard laboratory procedures and the current SDS.
- This product is intended for research use only.

Read the current SDS before use. Wear lab coat, gloves, and eye protection. Handle reagents according to local laboratory safety and EHS procedures.

Quality Control

QC Item	Method	Acceptable Range
Component completeness	Visual inspection on receipt	All components and volumes match the Product Contents & Storage table; lot number and expiry date legible.
Staining performance	Pilot staining with a representative sample	Expected target color and tissue/cell contrast are observed under the recommended microscope settings.

QC Item	Method	Acceptable Range
Reagent appearance	Visual inspection before use	No heavy precipitate, leakage, or abnormal turbidity beyond normal dye characteristics. Filter dye solution if required by protocol.

Troubleshooting

Issue	Possible Causes	Corrective Action
Weak or absent staining	• Insufficient staining time • Over-differentiation or excessive destaining • Reagent deterioration or incorrect working solution	• Extend staining time within the recommended range • Reduce differentiation/destaining time • Prepare fresh working solution and protect light-sensitive dyes from light
High background or overstaining	• Excessive staining time • Incomplete washing • Thick or uneven sections/smears	• Shorten staining time or increase differentiation • Wash thoroughly with water or ethanol as specified • Prepare thinner, even sections/smears
Uneven staining	• Incomplete dewaxing/rehydration • Slides contaminated with acid/alkali or oil • Sample thickness inconsistent	• Repeat dewaxing and graded rehydration • Use clean glassware and fresh solutions • Optimize section thickness and sample mounting

Recommended Applications

Nuclear staining in histology, cytology, and microscopy research workflows.

Contact & Global Offices

Whether you have a technical question, need help with a quotation, or want to inquire about an order, our regional teams are ready to assist. Please contact the office for your region; for general inquiries, use the North American sales and customer service contacts below.

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Limitations & Disclaimer

For Research Use Only (RUO). Not for use in human or animal diagnostics, therapeutics, or in vivo applications. Not for food, cosmetic, household, or other unauthorized uses.

This product is not a CE-marked in vitro diagnostic device under IVDR (EU) 2017/746 and is not an FDA-cleared device under 21 CFR. Use is restricted to verified businesses, institutions, and qualified professionals.

Where any reagent or component is classified as hazardous under CLP (EC) 1272/2008 or OSHA HCS (29 CFR 1910.1200), the product Safety Data Sheet (SDS), product label, and approved specifications take precedence over this document for handling, storage, transport, and disposal.

Performance depends on sample type, sample condition, handling, storage, and operator technique. Users are responsible for validating this product for their specific application.