# Cresyl Violet acetate

**Cat. No.:** HY-101888

**CAS No.:** 10510-54-0

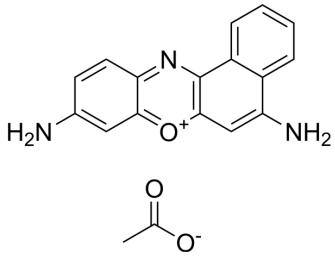
**Molecular Formula:** $C_{18}H_{15}N_3O_3$

**Molecular Weight:** 321.33

**Target:** Fluorescent Dye

**Pathway:** Others

**Storage:** 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 1 mg/mL (3.11 mM; Need ultrasonic)

$H_2O$ : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)

**Preparing Stock Solutions**

| Concentration \ Solvent \ Mass | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 3.1121 mL | 15.5603 mL | 31.1207 mL |
| 5 mM | --- | --- | --- |
| 10 mM | --- | --- | --- |

Please refer to the solubility information to select the appropriate solvent.

## BIOLOGICAL ACTIVITY

**Description**

Cresyl Violet acetate is a red fluorescent stain, which can be used to stain neurons.

**In Vitro**

The estimated total number of SG neurons is 27,485±3251 and 26,705±1823 in the PV and Cresyl Violet acetate stained sections, respectively. There is no significant difference between them (p=0.552). Therefore, Cresyl Violet acetate staining is simpler and more cost effective when estimates neuronal number. Although PV stains spiral ganglion neurons (SGNs) with a greater intensity and provides a functional status, its tedious protocol limits its use for quantification. Total RC volume is estimated using probe and it is found that an average RC volume of 2.162±0.35 $mm^3$ and 1.82±0.33 $mm^3$ in Cresyl Violet acetate staining and PV immunostaining sections, respectively. Volume of neurons is estimated using nucleator probe and it is 3487.63±951 $\mu m^3$ and 3740.1±784 $\mu m^3$ in Cresyl Violet acetate staining and PV immunostaining sections, respectively. Similarly, volume of neuronal nucleus is also estimated using nucleator probe and it is found to be 131.68±50 $\mu m^3$ and 126.51±33 $\mu m^3$ in Cresyl Violet acetate staining and PV immunostaining sections, respectively[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## PROTOCOL

**Cell Assay** [1]

Cochlear sections containing SGNs are placed in 24 wells plates containing PBS (pH 7.4) and stored at 4°C. The sections are then used for Cresyl violet acetate and immunohistochemical (IHC) staining. Every 7th section is stained with Cresyl violet acetate (1%), dehydrated with ascending grades of alcohol, cleared with xylene, mounted with DPX and observed under microscope. Approximately 12-13 Cresyl violet acetate staining sections from each specimen are used for stereology. None of these cases show any histopathological changes under the light microscope. Estimation of the total volume of the Rosenthal canal (RC), total number of SGNs (optical fractionator probe) and the volume of the soma and their nucleus (nucleator probe) is done with software[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Cerebellum. 2023 Oct 25.

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## REFERENCES

[1]. Kaur C, et al. Comparison of unbiased stereological estimation of total number of cresyl violet stained neurons and parvalbumin positive neurons in the adult human spiral ganglion. J Chem Neuroanat. 2017 Jun 23. pii: S0891-0618(17)30037-6.



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