
Product Data Sheet

Product Name: Cresyl Violet perchlorate (Oxazine 9 perchlorate)

Cat. No.: GC31090

Chemical Properties

Cas. No. 41830-80-2

SMILES NC1=CC2=[O+]C3=C(C4=CC=CC=C4C(N)=C3)N=C2C=C1.O=Cl(=O)([O-])=OFormula C₁₆H₁₂ClN₃O₅

M.Wt 361.74

Solubility DMSO : 250 mg/mL (691.10 mM; Need ultrasonic) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure **Protocol****Cell experiment:**

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 perchlorate (CV) and immunohistochemical (IHC) staining. Every 7th section is stained with Cresyl Violet perchlorate (1%), dehydrated with ascending grades of alcohol, cleared with xylene, mounted with DPX and observed under microscope. Approximately 12-13 Cresyl Violet perchlorate stained 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].

Caution: Product has not been fully validated for medical applications. For research use only.

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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.

Background

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

The estimated total number of SG neurons is $27,485 \pm 3251$ and $26,705 \pm 1823$ in the PV and Cresyl Violet perchlorate (CV) stained sections, respectively. There is no significant difference between them ($p=0.552$). Therefore, Cresyl Violet perchlorate 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 mm³ and 1.82 ± 0.33 mm³ in Cresyl Violet perchlorate stained and PV immunostained sections, respectively. Volume of neurons is estimated using nucleator probe and it is 3487.63 ± 951 μm³ and 3740.1 ± 784 μm³ in CV stained and PV immunostained sections, respectively. Similarly, volume of neuronal nucleus is also estimated using nucleator probe and it is found to be 131.68 ± 50 μm³ and 126.51 ± 33 μm³ in CV stained and PV immunostained sections,

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respectively[1].

[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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