V02

单胺氧化酶(MAO)染色试剂盒(NBT 法)

货号：G2415
规格：2×50mL
保存：2-8℃，避光保存，有效期 6 个月。

产品组成：

名称	2×50mL	保存
试剂(A): MAO固定液	50mL	2-8℃，避光
试剂(B): MAO染色液	50mL	2-8℃，避光

产品介绍：

单胺氧化酶(Monoamine Oxidase，MAO)包括 MAO-A 和 MAO-B，是一种结合在线粒体外膜上的黄素蛋白，可催化神经递质和生物胺氧化脱氨。单胺氧化酶与机体老化有关，被认为是衰老的标志，其主要存在于脊椎动物的各种器官，特别是在分泌腺、脑、肝脏。在抑郁症、氧化还原应激性心肌损伤和组织纤维化均有可检测的显著变化。同时在无脊椎动物、豆类的芽等植物中也存在催化单胺类物质代谢，含量较低，具有重要的生理功能。

单胺氧化酶(MAO)染色试剂盒(NBT 法)主要由 MAO 固定液和 MAO 染色液组成，是以色胺盐为底物，硝基四唑盐为氢受体，在氧化脱氨过程中，使氢受体在酶活性位点原位还原为双甲臜色素沉淀。该试剂仅用于科研领域，不适用于临床诊断或其他用途。

操作步骤：*(仅供参考)*

1、 取新鲜组织，速冻制备冰冻切片。(见注意事项1)
2、 置于蒸馏水中复温2-3min。
3、 MAO固定液固定10-15min，然后蒸馏水洗。
4、 滴加MAO染色液，37℃避光孵育30-60min。(见注意事项2)
5、 (可选)水洗，使用复染液复染3-5min。(见注意事项3)
6、 水洗，甘油明胶封片，光学显微镜镜检。

染色结果：

MAO活性部位	蓝色或紫色沉淀
背景和细胞核	无色或复染色

注意事项：

1、 染色建议使用新鲜速冻组织切片或MAO固定液固定组织后制备冰冻切片。单纯醛类固定液（中性福尔马林固定液或多聚甲醛固定液）会对MAO酶有灭活作用，不宜用于染色前固定。
2、 MAO染色时，建议根据样本情况提前做预实验确定最佳染色时间。
3、 如需要衬染细胞核，可在MAO染色液孵育后，选择G1652-甲基绿染色液(MG,1%)浅染核1-3min，过染会掩蔽酶活性位点着色。
4、 为了您的安全和健康，请穿实验服并戴一次性手套操作。

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Monoamine Oxidase(MAO)Stain Kit (NBT Method)

Cat: G2415
Size: 2×50mL
Storage: 2-8℃, avoid light, valid for 6 months.

Kit Components

Reagent	2×50mL	Storage
Reagent(A): MAO Fixative	50mL	2-8℃, avoid light
Reagent(B): MAO Staining Solution	50mL	2-8℃, avoid light

Introduction

Monoamine oxidase (MAO), including MAO-A and MAO-B, is a flavoprotein that binds to the outer membrane of mitochondria and can catalyze the oxidative deamination of neurotransmitters and biogenic amines. Monoamine oxidase is related to the aging of the body and is considered as a sign of aging. It mainly exists in various organs of vertebrates, especially in the secretory glands, brain and liver. Significant changes can be detected in depression, redox stress myocardial injury and tissue fibrosis. At the same time, it also catalyzes the metabolism of monoamines in plants such as invertebrates and bean buds, with low content and important physiological functions.

Monoamine Oxidase (MAO) Stain Kit (NBT Method) is mainly composed of MAO Fixative and MAO Staining Solution. It uses tryptophan salt as the substrate, and nitrotetrazolium salt as the hydrogen receptor. During the process of oxidative deamination, the hydrogen receptor is reduced in situ at the enzyme active site to dimethyl carbamate pigment precipitation. This reagent is only used for scientific research, not for clinical diagnosis or other purposes.

Protocol(*for reference only*)

1. Take fresh tissues and froze quickly to prepare frozen sections. *(See Note 1)*
2. Treat the section in distilled water for 2-3min.
3. Fix the section with MAO Fixative for 10-15min, and then wash with distilled water.
4. Add MAO Staining Solution and incubate in dark at 37 ℃ for 30-60min. *(See Note 2)*
5. *(Optional)* Wash with water, and redye with counterstain solution for 3-5 min. *(See Note 3)*
6. Wash with water, seal with glycerin gelatin and view under the optical microscope.

Result

MAO Active Sites	Blue or Purple Sediment
Background and Nucleus	Colorless or Counterstain Color

Note

1. For staining, it is recommended to use fresh frozen tissue sections or the frozen tissue sections fixed by MAO Fixative. Single aldehyde fixatives (neutral formalin fixatives or paraformaldehyde fixatives) can inactivate MAO enzyme and should not be used for fixation before dyeing.
2. When dyeing with MAO, it is recommended to do pre experiments in advance according to the sample conditions to determine the best incubating time.
3. If you need to dye the nucleus, you can select G1652-Methyl Green Stain Solution, 1% to light dye the nucleus for 1-3 minutes after incubation in MAO staining solution. Overstaining will cover the staining of enzyme active sites.
4. For your health and safety, please wear the experimental clothes and disposable gloves.