

Mito-Tracker Green (线粒体绿色荧光探针)

| 产品编号 | 产品名称 | 包装 |
|-------|--------------------------------|------------|
| C1048 | Mito-Tracker Green (线粒体绿色荧光探针) | 50 μ g |

产品简介:

- Mito-Tracker Green, 也称MitoTracker Green, 是一种线粒体(mitochondria)特异性绿色荧光探针。Mito-Tracker Green可用于活细胞线粒体特异性荧光染色, 也可用于固定细胞线粒体染色, 但后者染色效果会略有下降。本产品染色后不能再进行固定。
- Mito-Tracker Green 为采用 carbocyanine 进行了荧光标记的一种 Mito-Tracker, 也称 Benzoxazolium, 2-[3-[5,6-dichloro-1,3-bis[[4-(chloromethyl)phenyl]methyl]-1,3-dihydro-2H-benzimidazol-2-ylidene]-1-propenyl]-3-methyl-, chloride。分子式为C₃₄H₂₈C₁₅N₃O, 分子量为671.88, CAS number为201860-17-5, 可以用作线粒体特异性的荧光探针。和Mito-Tracker Deep Red 633、Mito-Tracker Deep Red FM、Rhodamine 123或JC-1相比, Mito-Tracker Green对于线粒体的染色不依赖于线粒体膜电位。
- 由于Mito-Tracker Green对于线粒体的染色不依赖于线粒体膜电位, 因此可对固定后的细胞或组织进行染色, 但荧光可能会有一定程度的下降或弥散。Mito-Tracker Green染色后固定后会导致荧光消失。Mito-Tracker Green对活细胞的染色效果参考图1。

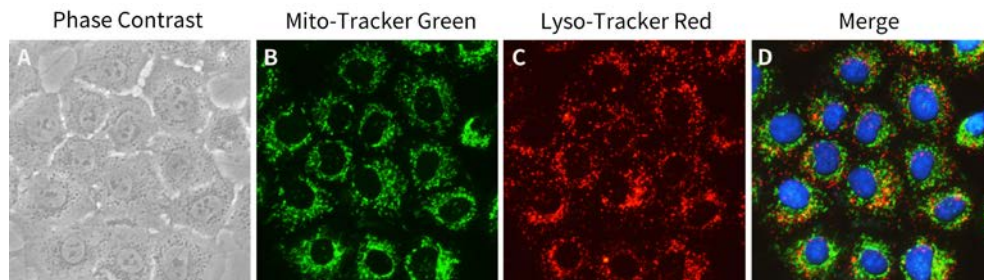


图1. Mito-Tracker Green(线粒体绿色荧光探针)对于NRK-52E细胞(大鼠肾小管上皮细胞)的染色效果。Mito-Tracker Green染色的NRK-52E活细胞线粒体呈现绿色荧光(图B), Lyso-Tracker Red (C1046)染色的NRK-52E细胞的溶酶体呈现红色荧光(图C), 绿色荧光、红色荧光及细胞核蓝色荧光的叠加(merge)效果见图D。其中细胞核使用Hoechst 33342 (C1027)染色。本图仅作参考, 实际检测效果会因实验条件、检测仪器等的不同而存在差异。

- Mito-Tracker Green最大激发光波长为490nm, 最大发射波长为516nm, 呈绿色荧光, Mito-Tracker Green的结构式以及激发光谱和发射光谱参考图2。

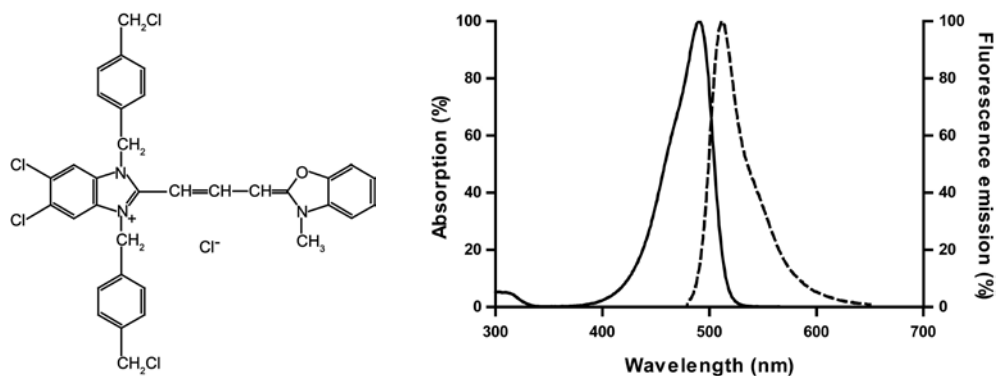


图2. Mito-Tracker Green的结构式(左)以及激发光谱和发射光谱(右)。

- 按最终工作浓度为20-200nM计算, 可以配制约370-3700ml Mito-Tracker Green工作液。

包装清单:

| 产品编号 | 产品名称 | 包装 |
|-------|--------------------|------------|
| C1048 | Mito-Tracker Green | 50 μ g |
| — | 说明书 | 1份 |

保存条件:

-20°C避光保存, 半年有效。

注意事项:

- 活细胞染色后可以立即进行观察或检测,再经过固定后会导致荧光消失。如需染色后再固定,推荐Mito-Tracker Deep Red FM (线粒体深红荧光探针) (C1032)。Mito-Tracker Green可以对固定后的细胞或组织进行染色,但荧光染色效果可能会有一定程度的下降或弥散。如需进一步通透处理,推荐使用免疫染色通透液(Saponin) (P0095)。
- 对于微量的液体,每次使用前先离心数秒钟,使液体充分沉降到管底。
- 荧光染料均存在淬灭问题,请尽量注意避光,以减缓荧光淬灭。
- 需自备盖玻片和载玻片(可以向碧云天订购)。
- 本产品仅限于专业人员的科学研究用,不得用于临床诊断或治疗,不得用于食品或药品,不得存放于普通住宅内。
- 为了您的安全和健康,请穿实验服并戴一次性手套操作。

使用说明:

1. Mito-Tracker Green储存液的配制:

用无水DMSO(anhydrous dimethylsulfoxide)配制Mito-Tracker Green至终浓度为1mM。配制后可以-20°C或更低温度避光保存。

2. Mito-Tracker Green工作液的配制:

a. 取少量1mM Mito-Tracker Green储存液按照1:5000-1:50,000的比例加入到细胞培养液或适当的溶液(例如含钙镁离子的HBSS)中,使最终浓度为20-200nM。例如取1 μ l Mito-Tracker Green加入到50ml或5ml细胞培养液或适当的溶液(例如含钙镁离子的HBSS)中。混匀后即为Mito-Tracker Green工作液。HBSS with Ca²⁺ & Mg²⁺ (C0219) 可以向碧云天订购。

b. Mito-Tracker Green工作液使用前需37°C预温育。

注:工作液中Mito-Tracker Green的浓度可以根据实际情况进行适当调整。为降低背景,在染色效果可以接受的范围内,建议尽量使用较低浓度的Mito-Tracker Green。

3. 线粒体的荧光标记:

a. 去除细胞培养液,加入步骤2配制好的并37°C预温育的Mito-Tracker Green染色工作液,与细胞37°C共孵育15-45分钟。

b. 去除Mito-Tracker Green染色工作液,加入37°C预温育的新鲜细胞培养液。

c. 随后通常用荧光显微镜或激光共聚焦显微镜进行观察。此时可观察到线粒体呈明亮的强荧光染色。如果染色效果欠佳,可以提高Mito-Tracker Green染色工作液中Mito-Tracker Green的浓度或在推荐的时间范围内适当延长染色时间。

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