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Lyso-Tracker Red (溶酶体红色荧光探针)

产品编号	产品名称	包装
C1046	Lyso-Tracker Red (溶酶体红色荧光探针)	50μl

产品简介:

- Lyso-Tracker Red是一种溶酶体(lysosome)红色荧光探针，能通透细胞膜，可以用于活细胞溶酶体特异性荧光染色。
- Lyso-Tracker Red为采用Molecular Probes公司的DND-99进行了荧光标记的带有弱碱性的荧光探针，其中仅弱碱可部分提供质子，以维持pH在中性,可以选择性地滞留在偏酸性的溶酶体中，从而实现对于溶酶体的特异性荧光标记。中性红(Neutral Red)和吖啶橙(Acridine Orange)也都可以对溶酶体进行荧光染色，但中性红和吖啶橙的染色缺乏特异性。Lyso-Tracker Red适用于活细胞溶酶体的荧光染色，但不适合用于固定细胞溶酶体的荧光染色。Lyso-Tracker Red分子的化学结构式参考图1。

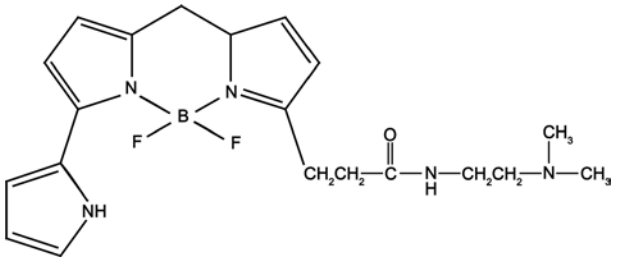

图1. Lyso-Tracker Red的化学结构式。

- Lyso-Tracker Red的分子式为$C_{20}H_{24}BF_2N_5O$, 分子量为399.25, 最大激发波长为577nm, 最大发射波长为590nm。Lyso-Tracker Red的激发光谱和发射光谱参考图2。

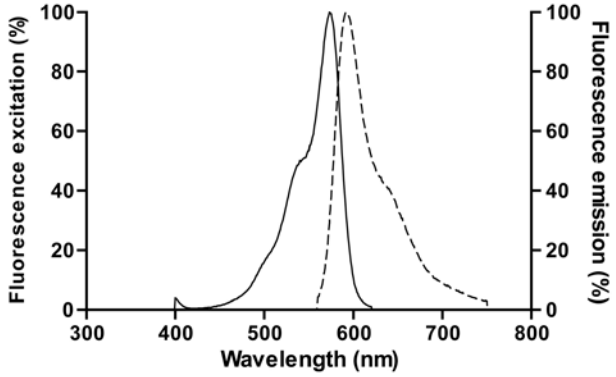

图2. Lyso-Tracker Red的激发光谱和发射光谱。

- Lyso-Tracker Red是嗜酸性荧光探针，用于活细胞内酸性细胞器的标记和示踪。这些探针具有几个重要特征，包括高度选择靶向酸性细胞器和在纳摩尔浓度有效标记活细胞。Lyso-Tracker Red必须在极低浓度(通常约50nM)下才能获得优异的选择性。这些探针的滞留(retention)机制虽然没有被研究清楚，但很可能与酸性细胞器的质子化和滞留性有关，Lyso-Tracker Red探针的内吞作用动力学研究显示染料进入活细胞的摄入时间仅几秒即可。然而，这些溶酶体探针会导致溶酶体被碱化，长期孵育会诱使溶酶体pH值的增加。因此，建议成像前用探针孵育细胞的时间不能太久。Lyso-Tracker Red探针具体使用浓度和孵育时间需要根据自身实验条件和具体细胞种类来进行摸索以达到满意的染色效果。Lyso-Tracker Red在活细胞中染色效果参考图3。

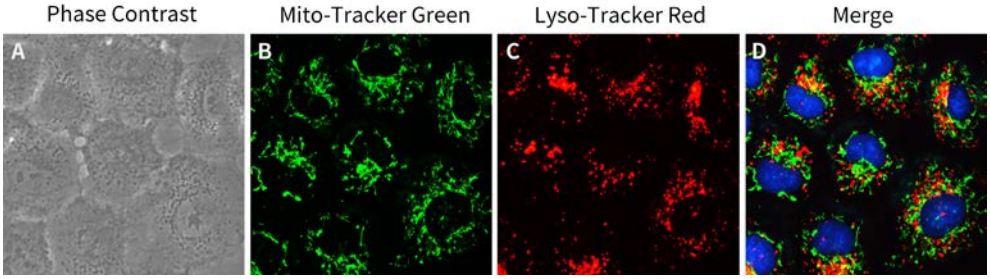

图3. Lyso-Tracker Red对于NRK-52E(大鼠肾小管上皮细胞)的染色效果。Mito-Tracker Green (C1048)染色的NRK-52E细胞其

线粒体呈现绿色荧光(图B)，Lyso-Tracker Red (C1046)染色的NRK-52E细胞其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。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，图中数据仅供参考。

- Lyso-Tracker Red适用于活细胞溶酶体的荧光染色，但不适合用于固定细胞溶酶体的荧光染色。如果经Lyso-Tracker Red染色后的细胞需要进行固定操作，可以尝试3%的戊二醛(glutaraldehyde)。
- 按照1:20,000的比例稀释，可以配制1000ml Lyso-Tracker Red工作液。

包装清单：

产品编号	产品名称	包装
C1046	Lyso-Tracker Red (1mM)	50μl
—	说明书	1份

保存条件：

-20°C避光保存，半年有效。

注意事项：

- Lyso-Tracker Red (1mM)在4°C、冰浴等较低温度情况下会凝固而粘在离心管管底、管壁或管盖内，可以20-25°C水浴温育片刻至全部融解后使用。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。
- Lyso-Tracker Red适用于活细胞溶酶体荧光染色，但不适合用于固定细胞溶酶体的荧光染色。如果经Lyso-Tracker Red染色后的细胞需要进行固定操作，可以尝试3%的戊二醛(glutaraldehyde)。
- 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. Lyso-Tracker Red工作液的配制：
   a. 取少量Lyso-Tracker Red按照1:13333-1:20000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50-75nM。例如取1μl Lyso-Tracker Red加入到20ml或13.33ml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Lyso-Tracker Red工作液。HBSS with Ca^{2+} & Mg^{2+} (C0219)可以向碧云天订购。
   b. Lyso-Tracker Red工作液使用前需37°C预温育。
   注：工作液中Lyso-Tracker Red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Lyso-Tracker Red。
2. 溶酶体的荧光标记：
   a. 去除细胞培养液，加入步骤1配制好的并37°C预温育的Lyso-Tracker Red染色工作液，与细胞37°C共孵育5-60分钟。
   b. 去除Lyso-Tracker Red染色工作液，加入新鲜的细胞培养液。
   c. 随后通常用荧光显微镜或激光共聚焦显微镜进行观察。此时可观察到溶酶体呈明亮的强荧光染色。如果染色效果欠佳，可以提高Lyso-Tracker Red染色工作液中Lyso-Tracker Red的浓度或在推荐的时间范围内适当延长染色时间。

相关产品：

产品编号	产品名称	包装
C1002	DAPI	5mg/ml×0.2ml
C1005/C1006	DAPI 染色液	10ml/50ml
C1011	Hoechst 33258	10mg
C1017/C1018	Hoechst 33258 染色液	10ml/50ml
C1022	Hoechst 33342	10mg
C1025/C1026	Hoechst 33342 染色液	10ml/50ml
C1027/C1028/C1029	Hoechst 33342 活细胞染色液(100X)	0.1ml/0.5ml/3ml
C1033	Actin-Tracker Green (微丝绿色荧光探针)	0.2ml
C1036	DiI (细胞膜红色荧光探针)	10mg
C1038	DiO (细胞膜绿色荧光探针)	10mg
C1039-10mg	DiD (细胞膜远红外荧光探针)	10mg
C1041	ER-Tracker Red (内质网红色荧光探针)	20μl
C1042S	ER-Tracker Green (内质网绿色荧光探针)	20μl
C1043	Golgi-Tracker Red (高尔基体红色荧光探针)	1mg
C1045S	Golgi-Tracker Green (高尔基体绿色荧光探针)	1mg

C1046	Lyso-Tracker Red (溶酶体红色荧光探针)	50μl
C1047S	Lyso-Tracker Green (溶酶体绿色荧光探针)	50μl
C1048	Mito-Tracker Green (线粒体绿色荧光探针)	50μg
C1049B-50μg	Mito-Tracker Red CMXRos (线粒体红色荧光探针)	50μg
C1049B-250μg	Mito-Tracker Red CMXRos (线粒体红色荧光探针)	50μg×5
C1050	Tubulin-Tracker Red (抗体法微管红色荧光探针)	40μl
C1051S	Tubulin-Tracker Green (抗体法微管绿色荧光探针)	40μl
C1991S	细胞膜红色荧光染色试剂盒(DiI)	200-1000次
C1993S	细胞膜绿色荧光染色试剂盒(DiO)	200-1000 次
C1995S	细胞膜远红外荧光染色试剂盒(DiD)	200-1000 次
C2005	JC-1	1mg
C2007	Rhodamine 123	5mg

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