

JC-1

产品编号	产品名称	包装
C2005	JC-1	1mg

产品简介:

- JC-1也称CBIC2(3)或5,5',6,6'-Tetrachloro-1,1',3,3'-tetraethyl-imidacarbocyanine iodide, 分子式为 $C_{25}H_{27}Cl_4IN_4$, 分子量为652.23, CAS Number 3520-43-2, 纯度>95%。
- JC-1是一种广泛用于检测线粒体膜电位(mitochondrial membrane potential) $\Delta\Psi_m$ 的理想荧光探针。可以检测细胞、组织或纯化的线粒体膜电位。在线粒体膜电位较高时, JC-1聚集在线粒体的基质(matrix)中, 形成聚合物(J-aggregates), 可以产生红色荧光; 在线粒体膜电位较低时, JC-1不能聚集在线粒体的基质中, 此时JC-1为单体(monomer), 可以产生绿色荧光。这样就可以非常方便地通过荧光颜色的转变来检测线粒体膜电位的变化。常用红绿荧光的相对比例来衡量线粒体去极化的比例。
- 线粒体膜电位的下降是细胞凋亡早期的一个标志性事件。通过JC-1从红色荧光到绿色荧光的转变可以很容易地检测到细胞膜电位的下降, 同时也可以利用JC-1从红色荧光到绿色荧光的转变作为细胞凋亡早期的一个检测指标。JC-1检测线粒体膜电位的效果参考图1。

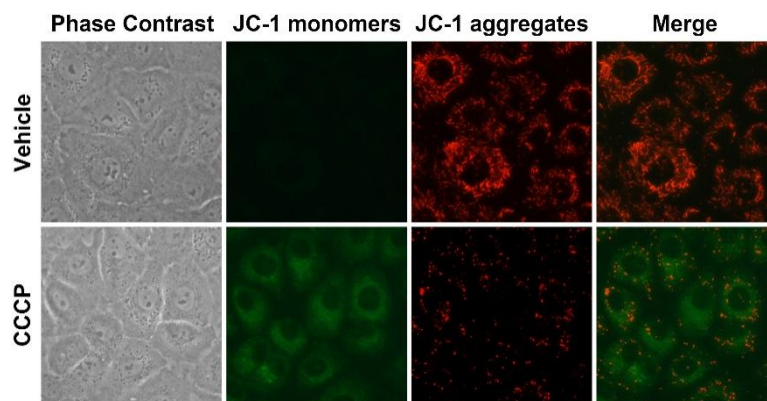


图1. JC-1检测NRK-52E细胞(大鼠肾小管上皮细胞)线粒体膜电位的效果图。正常的NRK-52E细胞线粒体中JC-1以聚合物形式存在, 呈明亮的红色荧光, 细胞中的绿色荧光非常弱; 使用CCCP处理使线粒体膜电位下降后, JC-1不能以聚合物形式存在于线粒体基质中, 此时线粒体内红色荧光强度显著降低, 而细胞浆中的绿色荧光显著增强。

- JC-1单体的最大激发波长为514nm, 最大发射波长为529nm; JC-1聚合物(J-aggregates)的最大激发波长为585nm, 最大发射波长为590nm。实际观察时, 使用常规的观察红色荧光和绿色荧光的设置即可。JC-1单体和聚合物的激发光和发射光光谱参考图2。

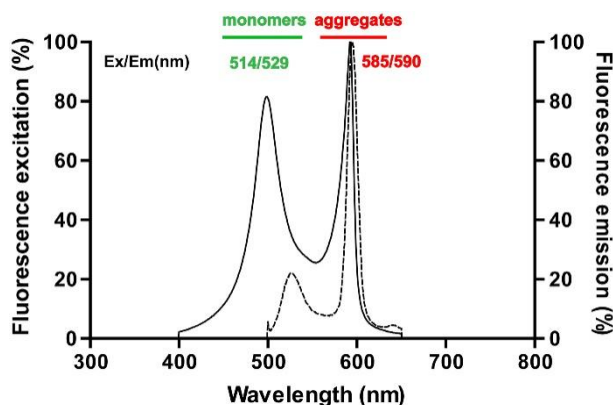


图2. JC-1单体和聚合物的激发光和发射光光谱。

- JC-1稀释和使用时有一些特殊的要求, 因此对于初次使用JC-1的用户或对于JC-1的使用不是非常熟悉的用户, 我们建议使用碧云天的线粒体膜电位检测试剂盒(JC-1)(C2006), 该试剂盒配套提供了一些相关试剂, 使用起来更加便捷。
- 本JC-1溶解在DMSO中, 浓度为5mg/ml, 共200 μ l。

包装清单:

产品编号	产品名称	包装
C2005	JC-1 (5mg/ml)	50μl/管，共4管
—	说明书	1份

保存条件：

-20℃ 避光保存。

注意事项：

- JC-1如果一次使用量较小，需把每管再适当进行分装，尽量避免反复冻融。
- JC-1在4℃、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℃水浴温育片刻至全部融解后使用。
- 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：

JC-1用于检测细胞的线粒体膜电位时常用的浓度范围为1-20μg/ml，对于很多细胞适宜采用的JC-1浓度为10μg/ml。详细的使用方法请参考相关文献资料。

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