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WST-1细胞增殖及细胞毒性检测试剂盒

产品编号	产品名称	包装
C0035	WST-1细胞增殖及细胞毒性检测试剂盒	100次

产品简介：

- WST-1细胞增殖及细胞毒性检测试剂盒(WST-1 Cell Proliferation and Cytotoxicity Assay Kit)是一种广泛应用于细胞增殖和细胞毒性的快速高灵敏度检测试剂盒。
- WST-1是一种类似于MTT的化合物，在电子耦合试剂存在的情况下，可以被线粒体内的一些脱氢酶还原生成橙黄色的formazan (参考图1)。细胞增殖越多越快，则颜色越深；细胞毒性越大，则颜色越浅。

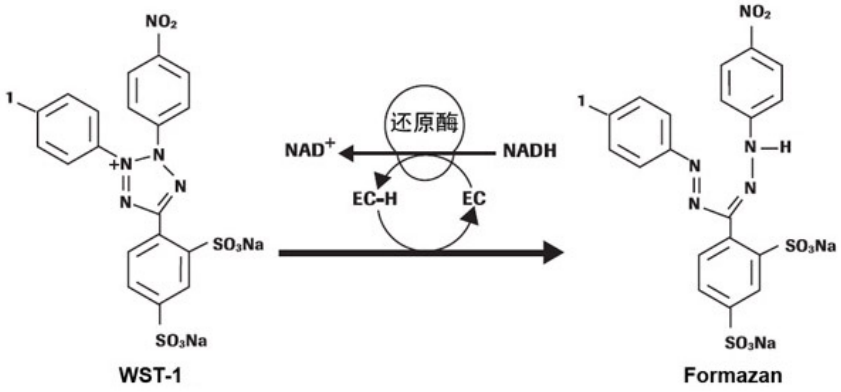

图1. WST-1检测原理图 (EC=electron coupling reagent，即电子耦合试剂)

- WST-1是MTT的一种升级替代产品，和MTT或其它MTT类似产品如XTT、MTS等相比有明显的优点。首先，MTT被线粒体内的一些脱氢酶还原生成的formazan不是水溶性的，需要有特定的溶解液来溶解；而WST-1和XTT、MTS产生的formazan都是水溶性的，可以省去后续的溶解步骤。其次，WST-1产生的formazan比XTT和MTS产生的formazan更易溶解。再次，WST-1比XTT和MTS更加稳定，使实验结果更加稳定。另外，WST-1和MTT、XTT等相比，线性范围更宽，灵敏度更高(参考图2)。
- 本试剂盒可以用于细胞因子等诱导的细胞增殖检测，也可以用于抗癌药物等对细胞有毒试剂诱导的细胞毒性检测，或一些药物诱导的细胞生长抑制检测等。
- 本试剂盒检测非常便捷。无须使用同位素，所有的检测步骤仅在同一块96孔板内完成。不必洗涤细胞，不必收集细胞，也不必采用额外步骤去溶解formazan。可以用于大批量样品的检测。
- 酚红和血清对本试剂盒的测定无明显影响。
- WST-1对细胞无明显毒性。加入WST-1显色后，可以在不同时间反复用酶标仪读板，使检测时间更加灵活，便于找到最佳测定时间。
- 碧云天各种细胞增殖和细胞毒性检测试剂盒的比较和选择，请参考 http://www.beyotime.com/support/cell-proliferation.htm。
- 本试剂盒可以测定100个样品。

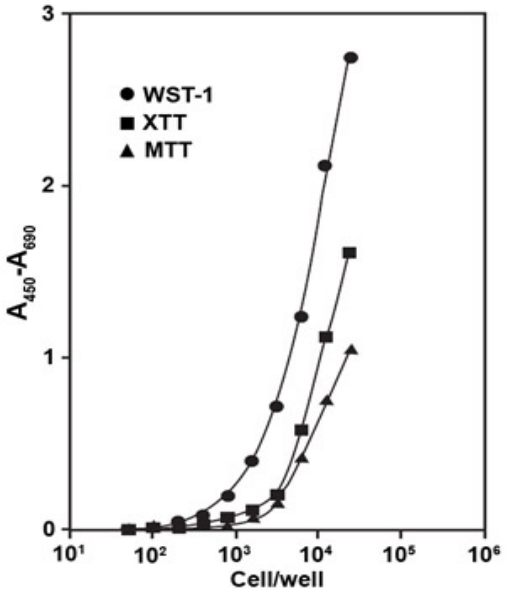

图2. WST-1、XTT和MTT的检测效果比较

注：450nm为测定波长，690nm为参考波长

包装清单：

产品编号	产品名称	包装
C0035-1	WST-1 (粉末)	1管
C0035-2	电子耦合试剂	1ml
—	说明书	1份

保存条件：

-20ºC避光保存，一年有效。WST-1粉末溶解后，4ºC避光可以保存一周，-20ºC避光可以保存半年(宜适当分装，尽量避免反复冻融)。

注意事项：

- 由于使用96孔板进行检测，如果细胞培养时间较长，一定要注意蒸发的问题。一方面，由于96孔板周围一圈最容易蒸发，可以采取弃用周围一圈的办法，改加PBS，水或培养液；另一方面，可以把96孔板置于靠近培养箱内水源的地方，以缓解蒸发。
- 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. WST-1溶液的配制：把1毫升电子耦合试剂加入到WST-1粉末中，完全溶解即成WST-1溶液。WST-1溶液4ºC避光可保存一周，而不影响使用效果。短期内不使用的WST-1溶液，分装后可以-20ºC避光保存半年(尽量避免反复冻融)。冻存的WST-1溶液溶解后可能会观察到一些沉淀物，这是正常现象，37ºC水浴孵育2-10分钟，通常可以完全溶解。
2. 通常细胞增殖实验每孔加入100微升2000个细胞，细胞毒性实验每孔加入100微升5000个细胞(具体每孔所用的细胞的数目，需根据细胞的大小，细胞增殖速度的快慢等因素决定)。按照实验需要，进行培养并给予0-10微升特定的药物刺激。
3. 每孔加入10微升WST-1溶液。如果起始的培养体积为200微升，则需加入20微升WST-1溶液，其它情况以此类推。可以用加了相应量细胞培养液和WST-1溶液但没有加入细胞的孔作为空白对照。
4. 在细胞培养箱内继续孵育0.5-4小时，对于大多数情况，孵育1-2小时就可以了。时间长短根据细胞的类型和细胞的密度等实验情况而定，初次实验时可以在0.5、1、2和4小时后分别用酶标仪检测，然后选取吸光度范围比较适宜的一个时间点用于后续实验。图3为HT-1080细胞在不同时间测定的细胞数量曲线。

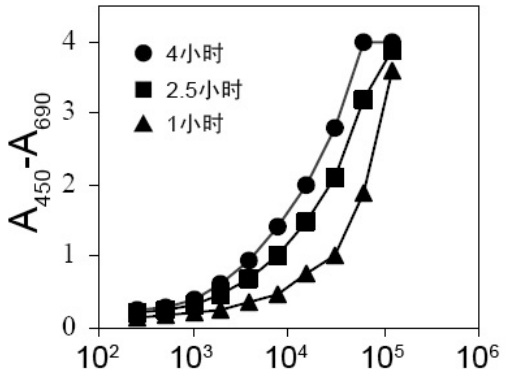

图3. HT-1080细胞培养20小时后，加入WST-1溶液后不同时间测得的吸光度。

5. 把96孔板置于摇床上摇动一分钟，以充分混匀待检测体系。
6. 在450nm测定吸光度。如无450nm滤光片，可以使用420-480nm的滤光片。可以使用大于600nm的波长作为参考波长进行双波长测定。

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