

## Tubulin-Tracker Red (抗体法微管红色荧光探针)

产品编号	产品名称	包装
C1050	Tubulin-Tracker Red (抗体法微管红色荧光探针)	40μl

### 产品简介:

- Tubulin-Tracker Red是一种Tubulin红色荧光探针，可以用于培养细胞或组织切片的Tubulin特异性荧光染色。
- 本Tubulin-Tracker Red探针为荧光染料Alexa Fluor 555标记的抗 $\alpha$ -Tubulin小鼠单克隆抗体(克隆号为DM1A)，可以识别 $\alpha$ -Tubulin的426-450aa。可以用于人、小鼠、大鼠、牛、猪、豚鼠和禽类(avian)样品 $\alpha$ -Tubulin的检测。最大激发波长为555nm，最大发射波长为565nm。Alexa Fluor 555的荧光光谱和Cy3非常接近，可以用Cy3的检测条件进行检测。
- 本产品可以用于细胞或组织内的微管(microtubule)的荧光检测。可以用于荧光显微镜观察，也可用于流式细胞仪检测。使用本产品染色细胞内微管的效果请参考图1。

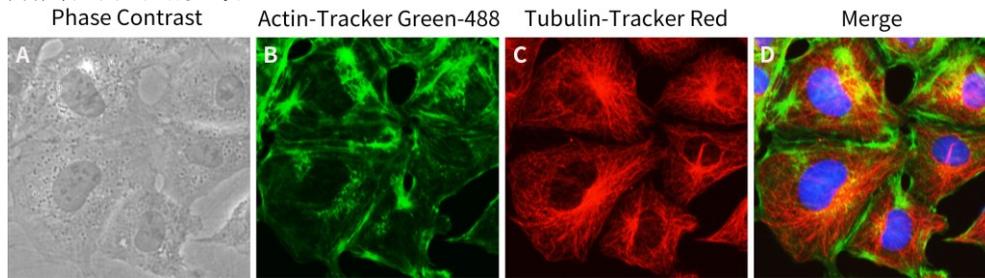


图1. Tubulin-Tracker Red对NRK-52E细胞(大鼠肾小管上皮细胞)的染色效果。图A为明场下大鼠肾小管上皮细胞形态图；绿色荧光为Actin-Tracker Green-488 (C2201S)染色的微丝(图B)，红色荧光为Tubulin-Tracker Red染色的微管(图C)，图D为Tubulin-Tracker Red、Actin-Tracker Green-488及Hoechst 33342三重染色的叠加图。实测数据会因实验条件、检测仪器等的不同而存在差异，图中数据仅供参考。

- 本产品使用时的推荐稀释比例为1:50-100，共可以配制2-4ml染色液。如果每个片子需要使用100μl染色工作液，每个包装的本产品足够用于20-40个片子的染色。

### 包装清单:

产品编号	产品名称	包装
C1050	Tubulin-Tracker Red (抗体法微管红色荧光探针)	40μl
—	说明书	1份

### 保存条件:

-20°C避光保存，1年有效。

### 注意事项:

- 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:

- 固定细胞或组织切片的荧光染色:
  - 用PBS洗涤细胞或组织切片2次。
  - 用碧云天的免疫染色固定液(P0098)或PBS配制的3.7%甲醛溶液室温固定细胞或组织切片约10-20分钟。
  - 用碧云天的免疫染色洗涤液(P0106)或含0.1% Triton X-100的PBS洗涤2-3次，每次5分钟。
  - 用碧云天的免疫荧光染色二抗稀释液(P0108)或含有1-5%BSA和0.1% Triton X-100的PBS按照1:50-100的比例稀释Tubulin-Tracker Red，例如4μl Tubulin-Tracker Red用0.2ml或0.4ml稀释液稀释，稀释后的溶液即为Tubulin-Tracker Red染色工作液。稀释比例可以根据实际染色效果进行适当调整。
  - 把Tubulin-tracker Red染色工作液按照约每个片子100μl的比例滴加到片子上，室温避光孵育30-60分钟。为防止蒸发，孵

育时最好将片子置于载玻片染色盒中，载玻片染色盒(FSR958)可以向碧云天订购。

- f. 用碧云天的免疫染色洗涤液(P0106)或含0.1% Triton X-100的PBS洗涤2-4次，每次5分钟。
  - g. 随后可以直接用荧光显微镜进行观察。也可以用抗荧光淬灭封片液封片后保存和观察。
2. 流式细胞仪检测：
- a. 每个样品收集约20-50万细胞。
  - b. PBS洗涤一次。
  - c. 用碧云天的免疫染色固定液(P0098)或PBS配制的3.7%甲醛溶液室温固定细胞约10-20分钟。
  - d. 用碧云天的免疫染色洗涤液(P0106)或含0.1% Triton X-100的PBS洗涤2-3次，每次5分钟。
  - e. 用碧云天的免疫荧光染色二抗稀释液(P0108)或含有1-5%BSA和0.1% Triton X-100的PBS重悬细胞，然后按照1:50-100的比例加入Tubulin-Tracker Red。例如1 $\mu$ l Tubulin-Tracker Red加入到50-100 $\mu$ l细胞悬液中。Tubulin-Tracker Red稀释比例可以根据实际染色效果进行适当调整。
  - f. 室温避光孵育1小时。
  - g. 用碧云天的免疫染色洗涤液(P0106)或含0.1% Triton X-100的PBS洗涤2-3次，每次5分钟。随后即可进行流式细胞仪分析。

## 相关产品：

产品编号	产品名称	包装
C1002	DAPI	5mg/ml $\times$ 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)	20 $\mu$ l
C1042S	ER-Tracker Green (内质网绿色荧光探针)	20 $\mu$ l
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)	50 $\mu$ l
C1047S	Lyso-Tracker Green (溶酶体绿色荧光探针)	50 $\mu$ l
C1048	Mito-Tracker Green (线粒体绿色荧光探针)	50 $\mu$ g
C1049B-50 $\mu$ g	Mito-Tracker Red CMXRos (线粒体红色荧光探针)	50 $\mu$ g
C1049B-250 $\mu$ g	Mito-Tracker Red CMXRos (线粒体红色荧光探针)	50 $\mu$ g $\times$ 5
C1050	Tubulin-Tracker Red (抗体法微管红色荧光探针)	40 $\mu$ l
C1051S	Tubulin-Tracker Green (抗体法微管绿色荧光探针)	40 $\mu$ l
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

## 使用本产品的文献：

1. Wang Y, Deng L, Zhong H, Wang Y, Jiang X, Chen J. Natural plant extract tubeimoside I promotes apoptosis-mediated cell death in cultured humanhepatoma (HepG2) cells. *Biol Pharm Bull.* 2011;34(6):831-8.
2. Yanchun Wei , Qun Chen , Baoyan Wu , Aiguo Zhou and Da Xing. High-sensitivity in vivo imaging for tumors using a spectral up-conversion nanoparticle NaYF<sub>4</sub>: Yb<sup>3+</sup>, Er<sup>3+</sup> in cooperation with a microtubulin inhibitor. *Nanoscale.* 2012 May;13:3901-9.
3. Zheng M,Zheng Y,Xie L, Chang W, Gu N Ji M. Orally Active Aurora A/B Kinase Inhibitor, AM - 005, Suppresses the Growth of Human Colon Carcinoma Cells. *Drug Development Research.* 2013 Jun;74(4):272-81.
4. Feng LX, Li M, Liu YJ, Yang SM, Zhang N. Synergistic enhancement of cancer therapy using a combination of ceramide and docetaxel. *Int J Mol Sci.* 2014 Mar 10;15(3):4201-20.
5. Jin H, Liang Q, Chen T, Wang X. Resveratrol protects chondrocytes from apoptosis via altering the ultrastructural and biomechanical properties: an AFM study.*PLoS One.* 2014 Mar 14;9(3):e91611.
6. Lu Z, Li H, Hou C, Peng Y, Long J, Liu J. Endogenously generated amyloid- $\beta$  increases stiffness in human neuroblastoma cells. *Eur Biophys J.* 2016 Nov 16. [Epub ahead of print]
7. Tu LY, Bai HH, Cai JY, Deng SP. The mechanism of kaempferol induced apoptosis and inhibited proliferation in human cervical cancerSiHa cell: From macro to nano. *Scanning.* 2016 Nov;38(6):644-653.
8. Liu L, Hu Y, Shen YF, Wang GX, Zhu B. Evaluation on antiviral activity of coumarin derivatives against spring viraemia of carp virus in epithelioma papulosum cyprini cells. *ANTIVIR RES.* 2017

- Aug;144:173-185.
9. Zhang C,Wang W,He W,Xi N,Wang Y,Liu L. Dynamic Model for Characterizing Contractile Behaviors and Mechanical Properties of a Cardiomyocyte. *Biophys J* . 2018 Jan 9;114(1):188-200.
  10. Xue YZB,Niu YM,Tang B,Wang CM. PCL/EUG scaffolds with tunable stiffness can regulate macrophage secretion behavior. *PROG BIOPHYS MOL BIO* . 2018 May 21. pii: S0079-6107(17)30320-6.
  11. Zhao YQ,Mu DL,Wang D,Han YL,Hou CC,Zhu JQ. Analysis of the function of KIF3A and KIF3B in the spermatogenesis in *Boleophthalmus pectinirostris*. *Fish Physiol Biochem* . 2018 Jun;44(3):769-788.
  12. Zhang MQ,Li JR,Peng ZG,Zhang JP. Differential Effects of Autophagy-Related 10 Protein on HCV Replication and Autophagy Flux Are Mediated by Its Cysteine44 and Cysteine135. *Front Immunol* . 2018 Sep 24;9:2176.
  13. Shen YF,Liu L,Feng CZ,Hu Y,Chen C,Wang GX,Zhu B. Synthesis and antiviral activity of a new coumarin derivative against spring viraemia of carp virus. *FISH SHELLFISH IMMUN* . 2018 Oct;81:57-66.
  14. Liu L,Zhang C,Wang W,Xi N,Wang Y. Regulation of C2C12 Differentiation and Control of the Beating Dynamics of Contractile Cells for a Muscle-Driven Biosyncretic Crawler by Electrical Stimulation. *Soft Robot* . 2018 Oct 18.
  15. Lu X,Wang Q,Gu H,Zhang X,Qi Y,Liu Y. Whole exome sequencing identified a second pathogenic variant in HOMER2 for autosomal dominant non-syndromic deafness. *Clin Genet* . 2018 Nov;94(5):419-428.
  16. Chen WC,Liu L,Shen YF,Hu Y,Ling F,Wang GX,Zhu B. A new coumarin derivative plays a role in rhabdoviral clearance by interfering glycoprotein function during the early stage of viral infection. *Cell Signal* . 2018 Nov;51:199-210.
  17. Li Z,Liu X,Ma J,Zhang T,Gao X,Liu L. hnRNPK modulates selective quality-control autophagy by downregulating the expression of HDAC6 in 293 cells. *Int J Oncol* . 2018 Nov;53(5):2200-2212.
  18. Gao Y,Elamin E,Zhou R,Yan H,Liu S,Hu S,Dong J,Wei M,Sun L,Zhao Y. FKBP51 promotes migration and invasion of papillary thyroid carcinoma through NF- $\kappa$  B-dependent epithelial-to-mesenchymal transition. *Oncol Lett* . 2018 Dec;16(6):7020-7028.
  19. Yilu Su,Zhi Zhou,Xiaopeng Yu. Possible roles of glutamine synthetase in responding to environmental changes in a scleractinian coral. *Mol Biol Rep*. 2018 Dec;45(6):2115-2124.;doi: 10.1007/s11033-018-4369-3.
  20. Luo Z,Xu X,Sho T,Zhang J,Xu W,Yao J,Xu J. ROS-induced autophagy regulates porcine trophectoderm cell apoptosis, proliferation, and differentiation. *AM J PHYSIOL-CELL PH* . 2019 Feb 1;316(2):C198-C209.
  21. Tang JC,Wu K,Zheng X,Xu M,Dai Y,Wei SS,Cai XJ. GSK923295 as a potential antihepatocellular carcinoma agent causing delay on liver regeneration after partial hepatectomy. *CHINESE MED J-PEKING*. 2019 Feb 5;132(3):311-318.
  22. Sun J,Zhou Q,Hu X. Integrating multi-omics and regular analyses identifies the molecular responses of zebrafish brains to graphene oxide: Perspectives in environmental criteria. *ECOTOX ENVIRON SAFE*. 2019 Sep 30;180:269-279.
  23. Wei YL,Yang T,Kovacs T,Yang WX. C-terminal kinesin motor es-KIF1C1 regulates nuclear formation during spermiogenesis in Chinese mitten crab *Eriocheir sinensis*. *Gene*. 2019 Nov 30;719:144074.
  24. Xiaolei Wang,Kaiyan Lou,Xiaodong Song,Huijuan Ma,Xinyi Zhou,Huan Xu,Wei Wang. Mebendazole is a potent inhibitor to chemoresistant T cell acute lymphoblastic leukemia cells. *TOXICOL APPL PHARM* . 2020 Jun 1;396:115001.;doi: 10.1016/j.taap.2020.115001.
  25. Yiming Niu,Lintao Wang,Na Yu,Panfei Xing,Zhenzhen Wang,Zhangfeng Zhong,Yanxian Feng,Lei Dong,Chunming Wang. An "all-in-one" scaffold targeting macrophages to direct endogenous bone repair in situ. *Acta Biomater*. 2020 Jul 15;111:153-169.;doi: 10.1016/j.actbio.2020.05.023.
  26. Zhen Chen,Chao Chen,Tingting Zhou,Chao Duan,Qianqian Wang,Xiaohui Zhou,Xia Zhang,Fangrong Wu,Yunfen Hua,Fan Lin. A high-throughput drug combination screen identifies an anti-glioma synergism between TH588 and PI3K inhibitors. *Cancer Cell Int*. 2020 Jul 23;20:337.;doi: 10.1186/s12935-020-01427-0.
  27. Qiangqiang Wang,Jialei Bai,Baoan Ning,Longxing Fan,Tieqiang Xu,Zhiqiang Chen,Shutao Guo. Acid-sensitive PEGylated paclitaxel produg nanoparticles for cancer therapy: Effect of PEG length on antitumor efficacy. *J Control Release*. 2020 Oct 10;326:265-275.;doi: 10.1016/j.jconrel.2020.07.022.
  29. Shuang Li,Zhiqi Wang,Huili Tong,Shufeng Li,Yunqin Yan. TCP11L2 promotes bovine skeletal muscle-derived satellite cell migration and differentiation via FMNL2. *J Cell Physiol*. 2020 Oct;235(10):7183-7193.;doi: 10.1002/jcp.29617.
  30. Yiwen Jiang,Dan Hong,Zhefeng Lou,Xuezi Tu,Longjin Jin. Lupeol inhibits migration and invasion of colorectal cancer cells by suppressing RhoA-ROCK1 signaling pathway. *N-S ARCH PHARMACOL*. 2020 Nov;393(11):2185-2196.;doi: 10.1007/s00210-020-01815-3.
  31. Mengyao Liu,Manfei Fu,Xiaoye Yang,Guoyong Jia,Xiaoqun Shi,Jianbo Ji,Xianghong Liu,Guangxi Zhai. Paclitaxel and quercetin co-loaded functional mesoporous silica nanoparticles overcoming multidrug resistance in breast cancer. *COLLOID SURFACE B*. 2020 Dec;196:111284.;doi: 10.1016/j.colsurfb.2020.111284.
  32. Jiaying Li,Jia Qi,Guangxin Yao,Qinling Zhu,Xinyu Li,Rui Xu,Zhenyi Zhu,Hanting Zhao,Yuan Wang,Ying Ding,Yun Sun. Deficiency of Sirtuin 1 Impedes Endometrial Decidualization in Recurrent Implantation Failure Patients. *Front Cell Dev Biol*. 2021 Jan 28;9:598364.;doi: 10.3389/fcell.2021.598364.
  33. Hao Cai,Yufan Xiang,Yujun Zeng,Zhiqian Li,Xiuli Zheng,Qiang Luo,Hongyan Zhu,Qiyong Gong,Zhongwei Gu,Yanhui Liu,Hu Zhang,Kui Luo. Cathepsin B-responsive and gadolinium-labeled branched glycopolymer-PTX conjugate-derived nanotheranostics for cancer treatment. *Acta Pharm Sin B*. 2021 Feb;11(2):544-559.;doi: 10.1016/j.apsb.2020.07.023.

Version 2021.07.02