

mIHC



多重荧光免疫组化

Multiplex Immunohistochemistry

注：本产品仅针对石蜡切片的荧光免疫组化实验

多重荧光免疫组化 (Multiplex Immunohistochemistry, mIHC) 是在常规免疫组化实验 (Immunohistochemistry, IHC) 的基础上, 结合酪胺信号放大技术 (Tyramide signal amplification, TSA) 所衍生出的一项新实验应用, 主要原理是利用酪胺的过氧化物酶反应 (酪胺盐在 HRP 催化 H_2O_2 下形成共价键结合位点), 产生大量的酶促产物。该产物能与周围的蛋白残基 (酪氨酸残基) 结合, 在抗原-抗体结合部位生成大量的生物素沉积, 并与随后加入的荧光基团结合。经几次这样的循环放大, 可以结合大量的酶分子或荧光基团, 从而使其检测信号得到指数级放大。

组织染色过程中, 首先孵育第一个靶点相对应的一抗、二抗, 并选择合适的 TSA 染料定位目的蛋白, 随后采用热修复法处理去除非共价结合的抗体。重复该过程即可对下一个靶点进行染色, 最后使用 DAPI 染核封片。

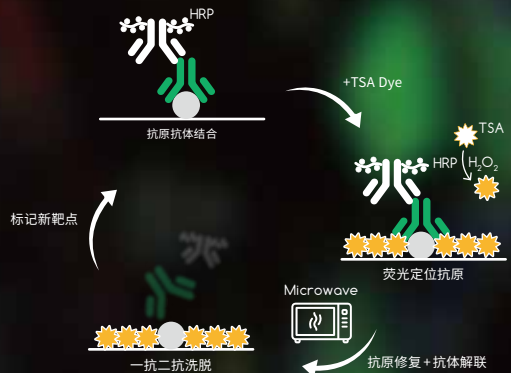


图-TSA多重标记原理

通过“清除旧抗体后孵育新抗体和荧光染液”的方式实现不同指标的标记染色

mIHC 用于荧光组化比传统 IF 更有优势



检测范围

mIHC 支持最多 7 色 7 指标共染 (含 DAPI)

IF 超过 3 种荧光时, 信号干扰变大



染色效果

mIHC 分辨率和特异性高, 信号稳定持久

IF 亮度一般, 易淬灭, 结果受多因素影响



抗体搭配

mIHC 可使用同一宿主来源的一抗, 二抗为 HRP 标记

IF 需寻找不同种属来源的一抗, 二抗为不同荧光探针标记



实验成本

mIHC 单一宿主抗体易选购

IF 部分稀有宿主抗体价格昂贵, 需多次摸索条件



染色策略

mIHC 重复操作抗体孵育 + 染色步骤即可

IF 需仔细考虑样本和指标特点设计方案



应用范围

mIHC 所用 HRP 二抗也可用于其他实验

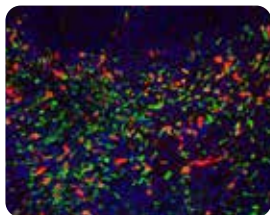
IF 二抗不通用, 应用受限



Goat Anti-Mouse/Rabbit Multiplex IHC Detection Kit (Double)

#18002 产品规格: 20T / 50T / 100T

- TSA-520 Dye; Ex/Em: 488/520nm
- TSA-570 Dye; Ex/Em: 555/570nm

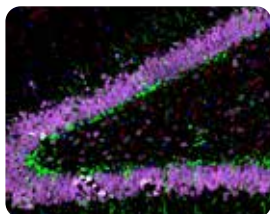


Immunohistochemistry analysis of paraffin-embedded chimera mouse carcinoma using F4/80 (Green) and CD206 (Red) antibodies.

Goat Anti-Mouse/Rabbit Multiplex IHC Detection Kit (Triple)

#18003 产品规格: 20T / 50T / 100T

- TSA-520 Dye; Ex/Em: 488/520nm
- TSA-570 Dye; Ex/Em: 555/570nm
- TSA-690 Dye; Ex/Em: 630/690nm

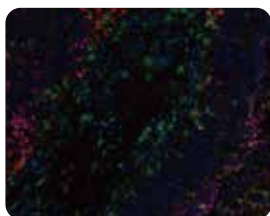


Immunohistochemistry analysis of paraffin-embedded mouse hippocampus tumor using DCX (Green), GFAP (Red) and NeuN (Pink) antibodies.

Goat Anti-Mouse/Rabbit Multiplex IHC Detection Kit (Quadruple)

#18005 产品规格: 20T / 50T / 100T

- TSA-520 Dye; Ex/Em: 488/520nm
- TSA-570 Dye; Ex/Em: 555/570nm
- TSA-620 Dye; Ex/Em: 590/620nm
- TSA-690 Dye; Ex/Em: 630/690nm

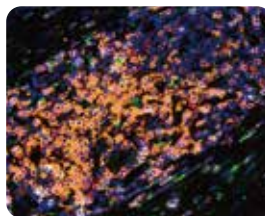


High-pressure and temperature Sodium Citrate pH 6.0 was used for antigen retrieval.

Goat Anti-Mouse/Rabbit Multiplex IHC Detection Kit (Quintuple)

#18006 产品规格: 20T / 50T / 100T

- TSA-520 Dye; Ex/Em: 488/520nm
- TSA-570 Dye; Ex/Em: 555/570nm
- TSA-620 Dye; Ex/Em: 590/620nm
- TSA-690 Dye; Ex/Em: 630/690nm
- TSA-780 Dye; Ex/Em: 750/780nm

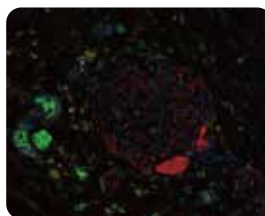


High-pressure and temperature Sodium Citrate pH 6.0 was used for antigen retrieval.

Goat Anti-Mouse/Rabbit Multiplex IHC Detection Kit (Sextuple)

#18007 产品规格: 20T / 50T / 100T

- TSA-480 Dye; Ex/Em: 450/480nm
- TSA-520 Dye; Ex/Em: 488/520nm
- TSA-570 Dye; Ex/Em: 555/570nm
- TSA-620 Dye; Ex/Em: 590/620nm
- TSA-690 Dye; Ex/Em: 630/690nm
- TSA-780 Dye; Ex/Em: 750/780nm



High-pressure and temperature Sodium Citrate pH 6.0 was used for antigen retrieval.

高分文献引用

Clinical and Translational Medicine IF=8.6

Integrating single-cell RNA sequencing with spatial transcriptomics reveals an immune landscape of human myometrium during labour.

引用产品: #18003

Goat Anti-Mouse/Rabbit Multiplex IHC Detection Kit (Triple)

样本: Human | 应用: IF