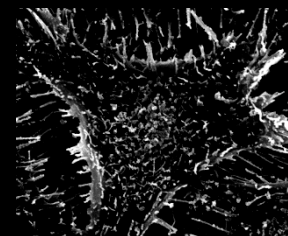
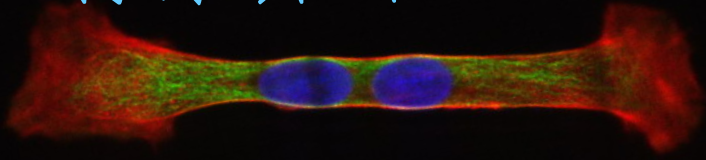


从生物力学视角探索表皮形态生成素 (EPM) 诱导管腔形态发生的机制

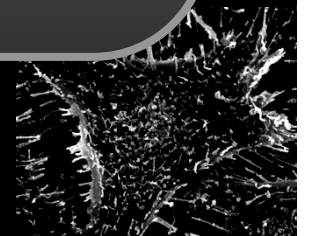
报告人：清华大学
杨春



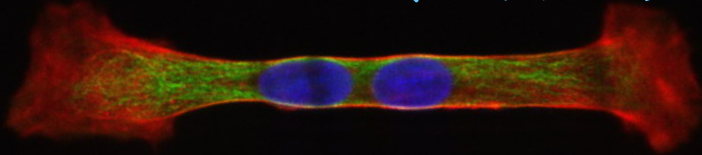
背景介绍



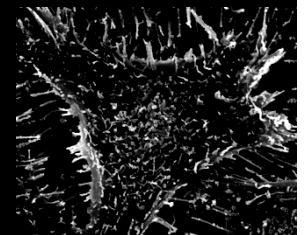
- 管腔形态的发生是生物发育中的重要过程也是组织工程领域的重要问题
- EPM广泛存在于胰腺、乳腺、肝、肾、血管、皮肤、肺等器官的内皮下基质中
- 调控管腔形态的发生(Duct Formation, DF)
- EPM诱导管腔发生的机制未明



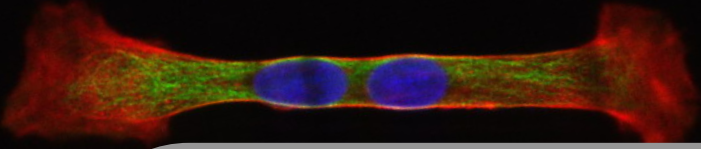
EPM对肝脏发育有重要作用



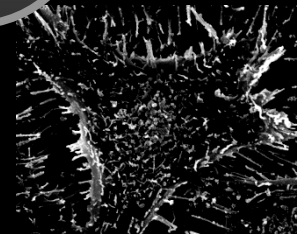
- EPM特异性地表达在肝星状细胞表面
- 在小鼠ED17.5即胎肝造血即将结束和肝细胞开始发育成熟时表达
- 敲除EPM的小鼠胎肝发育出现异常
- 与肝组织急性损伤后的再生密切相关
- 肝脏中最典型的管腔形态是胆管
- EPM对胆管发生的作用及机制未见报道

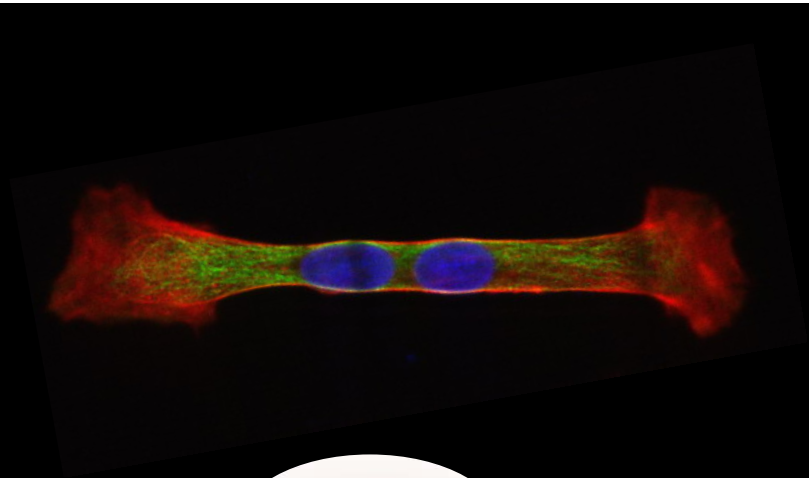


Cell line – WB-F344



- 分离自正常大鼠的肝脏
- A model of bipotential hepatoblasts
- 可向胆管系和肝实质细胞系分化
- 是一种被普遍认可的干/祖细胞系





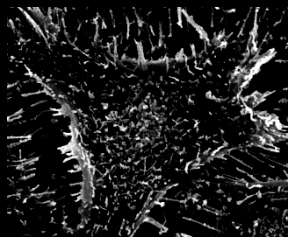
EPM

**Mitosis
Orientation**

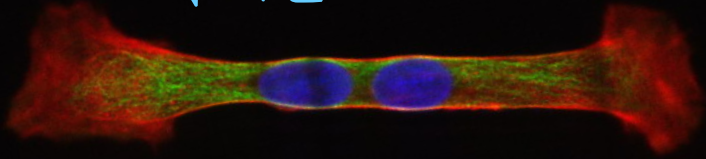
**Duct
Formation**

**Focal
Adhesion**

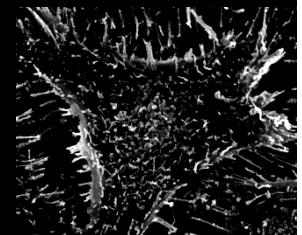
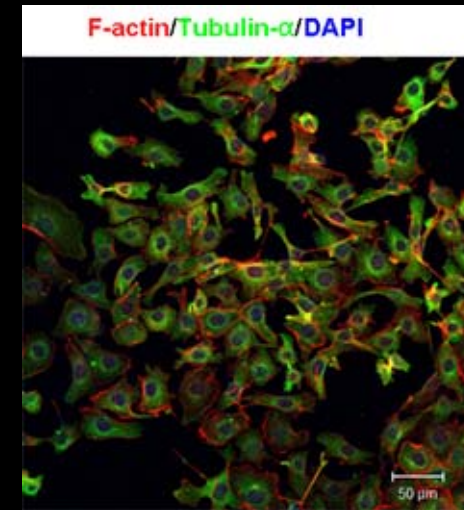
**Stress
Fiber**

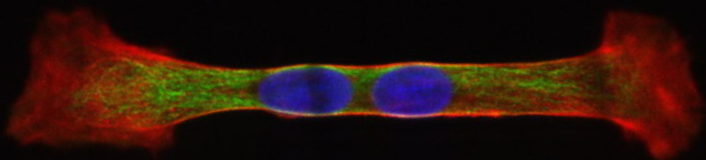


结论?

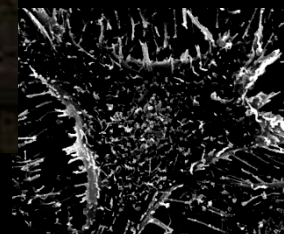


- EPM通过诱导粘着斑合成、应力纤维排列、有丝分裂方向确定介导胆管样形态发生
- 有丝分裂方向的确定是管腔样形态发生的充分必要条件吗?
 - 不是

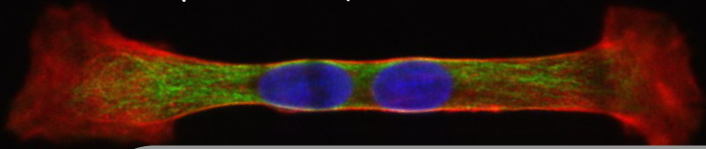




谢谢!



缩写表



AFP: Alpha Fetal Protein

TAT: tyrosine aminotransferase, 转氨酶

ALB: Albumin

C-kit: CD117, a tyrosine kinase receptor

GGT: gamma glutamyl transpeptidase, an enzyme located on the outer surface of the biliary cell membrane

CK19: cytokeratin 19

YP: glutathione-S-transferase pi

HNF3 α :Hepatocyte Nuclear Factor 3

HNF6: Hepatocyte Nuclear Factor 3

