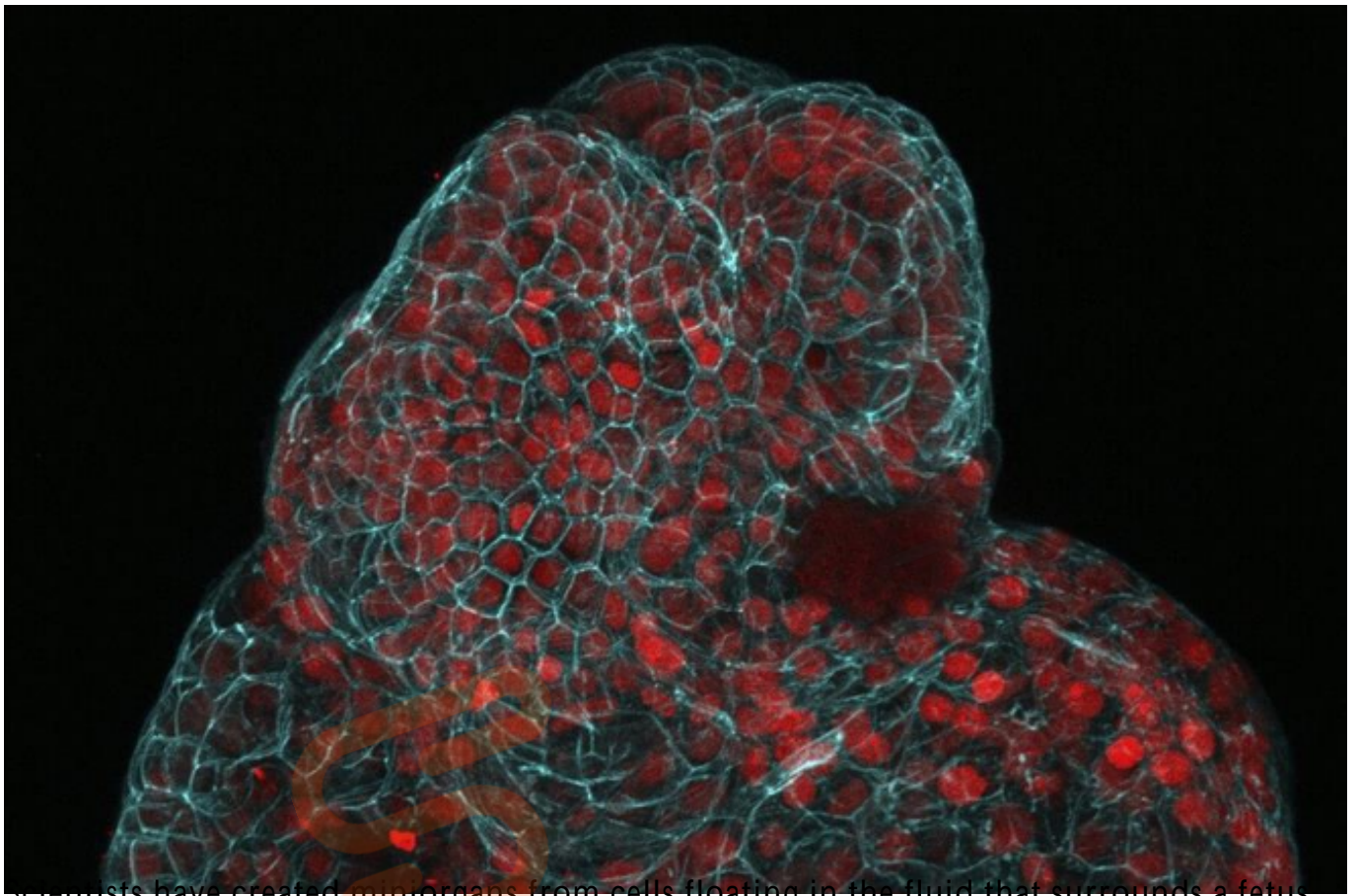


《科学突破！孕期抽取液体细胞，成功孕育出微型肺脏等器官！》



Scientists have created miniorgans from cells floating in the fluid that surrounds a fetus in the womb – an advance they believe could open up new areas of prenatal medicine.

科学家从子宫内胎儿周围的液体细胞中培育出微型器官——这一突破有望开启产前医学新领域。

Miniorgans, or "organoids," are tiny simplified structures that can be used to test new medical treatments or study how the real organs they mimic work, whether they are healthy or diseased.

微型器官，或称“类器官”，是微小的简化结构，可用于测试新的医疗方法或研究它们所模拟的真实器官的工作原理，无论这些器官是健康的还是患病的。

Researchers from University College London and Great Ormond Street Hospital in the United Kingdom collected cells from amniotic fluid samples taken during 12 pregnancies as part of routine prenatal testing. Then, for the first time, they grew mini-organs from cells taken during active pregnancies. They envision their approach could eventually help doctors monitor and treat congenital conditions before birth and develop personalized therapies for a baby in the womb.

英国伦敦大学学院和大奥蒙德街医院的研究人员从 12 次怀孕中例行产前检查采集的羊水样本中收集了细胞。然后，他们首次从活跃妊娠期间取得的细胞中培育出了微型器官。他们设想，这种方法最终可能有助于医生在出生前监测和治疗先天性疾病，并为子宫内的婴儿开发个性化疗法。

To examine one practical use of their approach, the U.K. team worked with colleagues in Belgium to study the development of babies with a condition called a congenital diaphragmatic hernia, in which organs such as the liver and intestines get displaced into the chest because of a hole in the diaphragm. The lungs don't develop the way they should, and about 30% of fetuses with the condition die. If doctors detect the hernia, they can operate on the fetus while it's still in the womb.

为了检验这种方法的实际用途，英国团队与比利时的同事合作，研究了一种名为先天性膈疝的婴儿疾病的发展情况，在这种疾病中，肝脏和肠道等器官由于膈肌上的孔洞而移位到胸腔中。肺部无法正常发育，约30%的患有这种疾病的胎儿会死亡。如果医生检测到疝气，他们可以在胎儿仍在子宫内时对其进行手术。

Researchers grew lung organoids from the cells of fetuses with the condition before and after treatment and compared them to organoids from healthy fetuses. Dr. Paolo de Coppi, an author of the study from University College London and Great Ormond Street Hospital, said they were able to assess the affected child's condition before birth using this method. Doctors are now unable to tell families much about the outcome of a prenatal diagnosis because each case is different, he said. The ability to study functioning prenatal miniorgans, he added, is the first step toward a more detailed prognosis and more effective treatments.

研究人员从接受治疗前后的患病胎儿的细胞中培育出肺类器官，并将其与健康胎儿的类器官进行比较。

伦敦大学学院和大奥蒙德街医院的研究作者之一保罗·德·科皮博士说，他们使用这种方法能够在出生前评估患病儿童的情况。

他说，医生现在无法向家属告知产前诊断的结果，因为每个病例都是不同的。他补充说，研究功能性的产前微型器官是朝着更详细的预后和更有效的治疗迈出的第一步。

重点词汇

open up 开放；取得；出现；产生；开通；敞开心扉；拆开；打开的门；打开话匣子；将开封

organoids 类器官；细胞器

can be used 可以使用；使用范围；能被利用

diseased 患病的；病态的；有病的

University College 大学学院；伦敦大学学院

United Kingdom 英国，联合王国

amniotic fluid 羊水

pregnancies 妊娠；怀孕；孕期；pregnancy的复数

part of 部分

for the first time 第一次

