

Mitochondrial DNA can be passed on from fathers, too

You probably learned two things about mitochondria in high school biology. First, they're the powerhouses of the cell. Second, you can only inherit them from your mother. But a new study seems to cloud that second point.

A team of researchers from the United States, China, and Taiwan identified three unrelated families with members whose mitochondria contained DNA from both parents. While this discovery could reignite debate about the nature of inheriting mitochondrial DNA, the researchers hope it will open up new ways to treat disease.

The story began when a four-year-old patient suffering from fatigue and muscle pain was referred to physician-scientist Taosheng Huang at the Cincinnati Children's Hospital Medical Center. Others had suggested the boy was showing signs of a mitochondrial disorder, so Huang sequenced and analyzed the boy's mitochondrial DNA—and found an abnormally high level of “heteroplasmy,” meaning different mitochondria seemed to contain different genes.

...

It appeared that the boy had, as expected, received his strange mitochondria from his mother, who shared the high level of heteroplasmy. But further analysis revealed that his mother, grandfather, and two of his great aunts had inherited mitochondrial DNA from both parents.

...

This study likely doesn't have huge implications on evolutionary timescales where maternal inheritance remains “absolutely dominant,” the authors write—it's an exception to a rule.

Read full, original post: [DNA That Should Only Pass Down From Mothers Can Come From Fathers, Too](#)