

Microbiome-Based Intervention For Intrauterine Growth Restriction

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SUMMARY

UCLA researchers in the Department of Integrative Biology and Physiology have identified one of the underlying causes of intrauterine growth restriction, which may be treated with microbiome-based therapeutics.

BACKGROUND

Intrauterine growth restriction (IUGR), defined as failure to maintain expected utero growth potential due to genetic or environmental factors, poses infants at increased risk for perinatal mortality and long-term morbidity compared with infants with normal in utero growth. The incidence of IUGR varies among populations and increases with decreasing gestational age, and may be caused by fetal, placental, and maternal factors. However, no underlying cause is identified in nearly 40% of infants with IUGR.

INNOVATION

Researchers at UCLA have revealed that dysbiosis of the maternal microbiome during pregnancy alters the normal functions of uterine natural killer cells (uNKs), and impairs placental angiogenesis, leading to downstream abnormalities in the fetal development. They proposed that live microbes or microbial metabolites can be used to develop microbiome-based therapeutics for treating IUGR, preeclampsia, or other related obstetric complications.

APPLICATIONS

- ▶ Treatment for intrauterine growth restriction, preeclampsia, or related obstetric issues

ADVANTAGES

- ▶ Novel microbiome therapeutic for treating intrauterine growth restriction (IUGR)

STATE OF DEVELOPMENT

Ongoing experiments have planned to test in mouse model.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	2022-017585	06/09/2022	2019-531

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OTHER INFORMATION

KEYWORDS

microbiome, microbiota, intrauterine growth restriction, IUGR, preeclampsia, uterine natural killer cells

CATEGORIZED AS

- ▶ **Medical**
- ▶ Disease: Women's Health

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