

# Who can take part?

We are looking for children who:

Are 12 to 15 months old.

Are being prescribed a course of oral antibiotics.

Have mostly stopped taking breastmilk or formula.

Live in the Auckland region.

We will ask you a few additional questions to check that your child is eligible to participate.

Participant costs will be reimbursed.

## What are the risks of the study?

OAK is a very low-risk study.

Breastmilk naturally contains a variety of HMOs. They are also well-tolerated by toddlers as supplements. Mild abdominal discomfort or change in bowel motions from supplements are possible but rare.



Waipapa  
Taumata Rau  
University  
of Auckland



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## Contact us

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**Liggins Institute**

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We will contact you within working hours



[auckland.ac.nz/oak-study](http://auckland.ac.nz/oak-study)

This study has been approved by the Northern B Health and Disability Ethics Committee on 18 August 2025.

## Liggins Institute Trial OAK Study

Supporting children's gut microbiomes





## What is the OAK Study?

### Oligosaccharides during Antibiotic treatment in Kids

Based at the Liggins Institute, this clinical trial is investigating whether milk oligosaccharides can help support the healthy balance of gut bacteria (the gut microbiome) in young children who are prescribed antibiotics.

Antibiotics are very important to treat bacterial infections but can cause an imbalance in the gut microbiome. These changes may affect the child's weight gain and lead to health conditions like allergic diseases.

## What are HMOs?

Human Milk Oligosaccharides (HMOs) are a type of complex sugar found naturally in breastmilk. They help to maintain a healthy gut microbiome by making it easier for beneficial gut bacteria to grow and thrive, while preventing the growth of harmful bacteria. HMO supplements can now be manufactured.

## What does the study involve?

Participating children will be randomly divided into two groups:

**Group 1**  
will receive a mixture of HMOs and dextrose

OR

**Group 2**  
will receive dextrose as a placebo  
(this is the control group)

Children in both groups will receive one teaspoon three times a day during the antibiotic course your child has been prescribed.

Over the next 18 months, we will monitor your child's growth, gut bacteria and common health conditions such as eczema and wheezing.

## Assessments

**Every 6 months:**

- Measurements: weight and height
- Development of eczema and asthma
- Occurrence of future infections
- Stool samples for identifying the gut microbiome

If your child has further courses of antibiotics over the next 18 months, we will repeat the course of HMOs or placebo. Your child will remain in the same group for the duration of the study.

