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The impact of lifestyle on the development of the gut microbiome in early life in relation to allergies

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Anthroposophic lifestyle have been indicated in several cross-sectional studies to reduce the risk of allergies in children, although the underlying factors and mechanisms are unknown. Here we present the longitudinal microbiota analysis of 56 infants and from the ALADDIN cohort using whole genome sequencing of stool samples from birth and up until age 5. The analysis is still undergoing, but we will here present the first results, showing how lifestyle impacts the development of the microbiome in early life. In addition, we will present an de novo functional strain profiling tool which allow for tracking carbohydrate utilization in the microbiome at the individual strain level without the use of reference genome. The aim of the analysis is to identify potential connections between the infant gut microbiome, immune system, and later onset of allergies. Anthroposophic lifestyle is generally characterized by a higher number of home deliveries, longer breastfeeding, organic diet, and restricted use of antibiotics, all of which may potentially influence the composition of the gut microbiota.