

# Study of mechanism underlying health-promoting benefits by dog ownership, especially focusing on microbiome cross-talk

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Microbiota analysis in children cohort, and estimation of dog bacteria promoting mental health

## Tokyo teen cohort study

3,300 children (follow-up from 10 years)

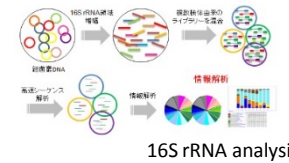
Questionnaire survey (10, 12, 14 years old)

- Psychoacoustic quantities
- Experiences with animals (dogs, cats...) etc., more than 2,500 items



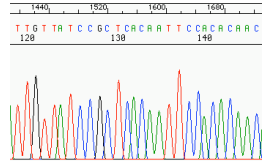
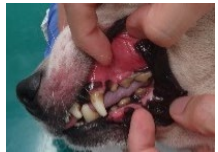
Analysis of microbiota in children

- saliva
- skin
- fecal

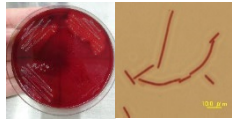


Search out bacteria which have relevance with mental health

## Establishment of culture method for dog bacteria



Isolation and Identification of the bacterial strain from dog



Providing the library of dog bacteria

## Study of mental-health-promoting effects of dog bacteria in mouse model, and investigation of mechanism how bacteria influence social behaviors and relevant neurons



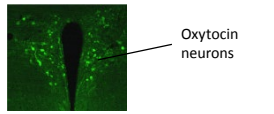
Oral administration of dog bacteria



Administration of bacteria via milk



Behavioral tests for sociality, emotion, etc.



Analysis of neural change

Oxytocin neurons