Soy isoflavones and lactic acid bacteria (BLS) are fermented dairy products such as yogurt, beverages with Lactobacillus casei Shirota (BLS) are consumed on a regular basis by many Japanese. However, no study showed BLS suppressed growth of mammary tumor. BLS consumption reduces the risk of bladder cancer (Ohashi et al. (2002)). Consumption of soy isoflavones is associated with the risk reduction of breast cancer in Asian population (Wu et al. (2008)). This case-control study evaluated whether past consumption of BLS and soy isoflavones reduces the risk of breast cancer.

### Design
- Case-control ratio = 1:2, matched for area of residence and age
- Home of residence: 14 areas in Japan
- Age: matched within two-year age brackets between 40 and 55 years
- Population-based case-control study

### Exposure measurement
- Interviews: Consumption of BLS and soy isoflavone-containing food and beverages during three specific periods (around age 20; 10 to 15 years before diagnosis; and between age 20 and age at diagnosis) were included in the analysis.

### Materials and Methods
- **Registration period**: October 2007 to March 2009
- **Sample size**: 306 cases and 662 controls were included in the analysis. 368 patients were invited to the study and 321 patients accepted the invitation.
- **Population**: Japanese people

### Results
- **Association between BLS and soy isoflavone consumption in trial setting and in breast cancer conditional logistic regression with adjustment for age at diagnosis, BLS, and soy isoflavone consumption and several other factors taking into account matching for area of residence**

### Discussion
- Regular consumption of lactic acid bacteria and isoflavones reduce breast cancer risk in Japanese women: a population-based case-control study

### Conclusion
- BLS and soy isoflavone consumption was different between women with breast cancer and women without breast cancer
- Women without breast cancer had consumed more BLS and soy isoflavones compared with women with breast cancer
- As shown in the previous studies, breast cancer incidence and breast cancer mortality rates were identified as risk factors in this study.

### Conflict of Interest
- This study was funded by Comprehensive Support Project for Oncology Research (CSPOR) of Public Health Research Foundation. The research fund was provided for community services, including data collection and analysis, and was not given for planning, implementation, and publication of this study. All decisions concerning the planning, implementation, and publication of the study were made by the executive committee of this study.

### References