Physiological effects of Zonarol in *C. elegans*

Violeta Quijada Janira（筑波大学 生物学類）　　指導教員：Kazuichi Sakamoto（筑波大学 生命環境系）

【Introduction and Purpose】

Zonarol is an anti-inflammatory compound from the brown alga *Dictyopteris undulata* that provides pharmacological effects such as antioxidant effects and phospholipase inhibition. *C. elegans* is an excellent model system for studying physiological processes, including aging, stress resistance, and immunity due to its simple structure and genetic likeness to humans. They have been shown to be functionally and morphologically similar to those of vertebrates, as well as having an easy genetic manipulation and analysis.

The detail mechanism of action of Zonarol in *C. elegans* remain unknown. There is no data or previous studies of the actions of Zonarol using on *C. elegans*. Therefore, I examined the physiological effects of Zonarol administration on *C. elegans*.

【Materials and Methods】

Worms were grown for a further 18h before synchronization was performed. Eggs were collected from gravid adults by using NaClO solution at the first larval stage. Later, embryos were incubated in s-basal at 20°C for further development. Finally, the worms were centrifuged after 96h and added to 4 agar plates seeded with Zonarol and *E. coli* (OP50). Each plate with 3 different concentrations (1μM, 10μM, 100μM). The procedure that was carried out is shown in Fig.1. Several assays have been used in this experiment. Body length, nile red staining, mitochondrial activity, heat stress tolerance and oxidative stress resistance assays. The procedures and results will be reported at the presentation.

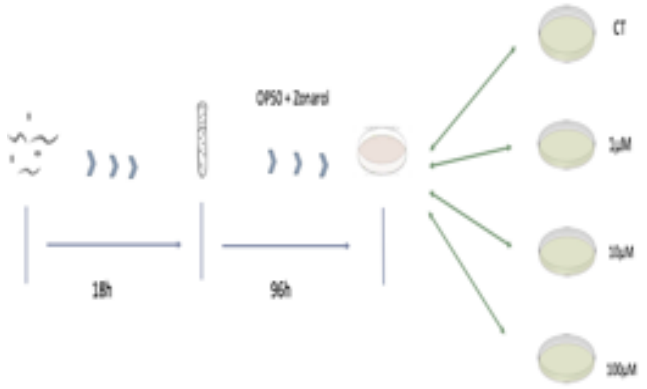

Fig. 1: Diagram of methodology

【Results and Discussion】

The results and discussion will be reported at the presentation.