

Effects of Endocrine Disrupters on the Gonads and the Papillary Process Formation in the Medaka (*Oryzias latipes*): Comparison Between *p*-Nonylphenol and Bisphenol-A

Yoko Yamamoto¹, Kayo Kobayashi¹, Satoshi Tamotsu^{1,2} and Tadashi Oishi^{1,}*

¹Graduate School of Human Culture and ²Faculty of Science, Nara Women's University, Japan

Alkylphenol polyethoxylates and bisphenol-A (BPA) have been known to have estrogenic actions. We tried to compare the effects of *p*-nonylphenol (NP) and BPA on the gametogenesis of the gonads and androgen-induced papillary process formation in the female medaka. To examine the effects of NP on the gonads and the papillary process formation induced by methyl testosterone (MT) treatment, female medaka were kept in water tanks contained MT (10 μ g/L) + NP (0, 1, 10, 100 μ g/L). In addition, fish were kept in water tanks contained alcohol (1ml), MT (10 μ g/L) + BPA (0, 1, 10, 100 μ g/L), BPA (10, 100 μ g/L). As the results, (1) Administration of NP suppressed dose dependently the papillary process formation. Mature follicles decreased significantly compared with the control in the NP treated groups. (2) Neither MT+BPA treatment nor BPA treatment showed clear effects on the papillary process formation. (3) There was a decrease of mature and maturing follicles in the gonads in BPA only treated groups.