

【P-25】**Effect of DDT on testosterone reduction through aromatase in leydig cell**

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Dichlorodiphenyltrichloroethane (DDT), is a widespread environmental pollutant. In this study, we investigated the effect of DDT on testosterone production through aromatase and investigated its molecular mechanism in testicular leydig cell, R2C. We investigated that the effects of DDT on testosterone production and its effects on aromatase activity in R2C cell by radio immunoassay (RIA). As the results, the potent leydig cell activator LH increased testosterone production compared to the control. DDT exposure significantly decreased testosterone production in R2C cell and DDT alone affected T reduction in a dose-dependent manner in R2C cell slightly. In addition, DDT was found to increase aromatase activity in R2C cell in a dose dependent manner. In order to assess whether the suppressive effects of DDT on LH-inducible testosterone production might be influenced by the ER, ICI 182.780, a pure antiestrogen, was used, and it was found that these inhibitory effects of DDT were antagonized by ICI 182.780, implying that the ER mediates the suppressive effects of DDT. Furthermore, the inducible effects of DDT on aromatase might be influenced by the ER, ICI 182.780 was used, and it was found that these enhancing effects of DDT were antagonized by ICI 182.780, implying that the ER mediates the inducible effects of DDT. Our results indicated that DDT inhibition of LH-inducible testosterone production in R2C is mediated through aromatase. However, the precise mechanisms by which DDT enhance in leydig cell remains unknown. The current study suggests the possibility that

DDT might act as a modulator aromatase gene transcription.

Key word : Dichlorodiphenyltrichloroethane, testosterone, aromatase, leydig cell