Induction of Persistent Estrus by Early Postnatal Exposure to Isoflavone in Mice

Tsukasa Mineta*, Kohshi Norikoshi, and Junko Yamashita

Life Science Institute, Sophia University, 7-1 Kioi-cho, Tokyo 102-8554, Japan
Faculty of Nursing, Kure University, 2-10-3 Aga-minami, Hiroshima 737-0004, Japan

*E-mail: t-mineta@hoffman.cc.sophia.ac.jp

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Isoflavones, classified as a phytoestrogen, are known to have estrogen-like effects. Since early postnatal treatment with estrogen induces persistent estrus in mice, we examined how isoflavones affect mice in this regard. Newborn female mice were injected subcutaneously with either isoflavone, daidzein or genistein, or 17β-estradiol for 5 consecutive days from the day of birth. When the mice were between 4 and 7 weeks of age, vaginal smears were examined, and the vagina from each mouse was removed for histological study at 7–8 weeks of age. The vaginal smear test revealed that all the estradiol-treated mice had cornifying cells of the vaginal epithelia, indicating persistent estrus. Similar manifestations were observed in some mice treated with isoflavone, especially when the dose was higher than that of 17β-estradiol.