DMSO군에서 세포의 손상이 적은 것으로 관찰되었는데 이는 DMSO가 glycerol에 비해 조직내 침투가 용이하기 때문인 것으로 사료된다.

## P-26 Estrogen Regulates the Expression of Sprp2 Family Gene in Mouse Uterus During the Estrous Cycle and the Pregnancy Period

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**Background & Objectives:** To investigate estrogen-regulated genes in the mouse uterus, we studied the effect of ovariectomy (OVX) with or without estrogen treatment using cDNA microarray. Of these genes, Sprp2A showed the highest level of up-regulation by estrogen in the OVX/estrogen treatment/12-h protocol. Therefore, we examined the expression of Sprp2 family (2A-2K) genes during the estrous cycle and the pregnancy period.

**Method:** Using real-time PCR, we examined Sprp2 family genes in the mouse (outbred ICR) uterus at various stages of the natural estrous cycle and during the pregnant period. The estrous cycle was staged by examining vaginal smears. The presence of a vaginal plug after mating was designated as day 1 of pregnancy (D1) and the uteri were collected on specified days of pregnancy (D1-6). For the investigation of the effect of estrogen, adult female mice were ovariectomized two week before the treatment of estrogen (300 ng/mouse).

**Results:** Sprp2A, 2B, 2C, 2D, 2E, 2F and 2G were up-regulated by estrogen in the OVX mouse uterus. The expression of Sprp2A, 2B, 2C, 2D and 2E was showed in increased level at pregnancy D1-2, but decreased at D3-6. During the estrous stages, Sprp2A, 2B and 2F were appeared intensively in proestrous and estrous, then declined rapidly from metestous and diestrous.

**Conclusions:** Although the clarification of the function of Sprp2 family and the significance of estrogen responsiveness in relation to uterine physiological events have not been identified, our results suggest that the Sprp2 family gene plays a pivotal role in the estrous cycle and the implantation process.