

Mandom Wins the Best Presentation Award
at the 3rd IPCE Conference

In recent years, Mandom Corporation (hereinafter “Mandom”; Headquarters: Osaka City, President Executive Officer & Director: Motonobu Nishimura) has increased its efforts in the women’s cosmetics business and has been actively conducting research on women’s skin. Amid these efforts, Mandom received the Best Presentation Award at the 3rd Intercontinental Personal Care Excellence (IPCE) Conference held at Hong Kong’s Science Park on June 3-5, 2019.¹



¹The participants in the oral presentations were selected from poster presenters with particularly interesting research among those at the Congress of International Federation of Societies of Cosmetic Chemists (IFSCC). The IPCE Conference had been held in Italy in previous years. However, this year it was held in Hong Kong to commemorate mainland China’s joining of IFSCC as a new member last fall and was jointly held with the 14th Asian Societies of Cosmetic Scientists (ASCS) Conference.

【Summary of the Award Winner】

(1) Title of the winning research

A New Approach Using Cultured Cells to Understand How Female Sex Hormones Affect Skin Barrier Function: Revisiting the Role of Progesterone (Hero or Villain?)

(2) Recipient

Akiko Sawada, Technical Development Center, Mandom Corporation

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(3) Research Content

Reproductive activities as well as skin conditions are known to be affected by the two female sex hormones estrogen (E2) and progesterone (PROG), which control the menstrual cycle. Mandom evaluated 22 healthy women ages 25-35 in a previous study. We reported that their skin was duller, their pores were larger, and their skin barrier function declined – worsening the skin conditions – in the luteal phase (from ovulation to menstruation when basal body temperature increases: hyperthermic phase) compared with the follicular phase (from menstruation to ovulation when basal body temperature decreases: hypothermic phase).²

The present study examined in more details the effects of female sex hormones on skin barrier function by a cellular-level examination using cultured cells. The study used a three-dimensional cultured skin model and found changes in the indicators of barrier function, ceramide NS and transepidermal water loss (TEWL). Namely, ceramide NS production decreased and TEWL increased – decreasing the barrier function – from the second half of the hypothermic phase to the first half of the hyperthermic phase compared with from the second half of the hyperthermic phase to the first half of the hypothermic phase. The study also found that when normal human epidermal keratinocytes were examined from the second half of the hypothermic phase to the first half of the hyperthermic phase, the rates of expression decreased for five genes involved in epidermal formation. It suggested that these phenomena led to the decline of barrier function in the actual skin in the hyperthermic phase.

In conclusion, the changes in women's skin condition during the menstrual cycle are thought to be caused by the effects of female sex hormone balance on epidermal keratinocyte formation and ceramide production.

²News Release: November 21, 2016

“Mandom discovers that the skin of women ages 25-35 changes with their menstrual cycle and its condition temporary declines in the hyperthermic phase.”