

# Research and Development



Meeting Diverse Needs and Wants throughout Asia's Countries and Regions

Mandom researches the wants that exist in different regions, and plans new and unique products to meet this demand.

Concentrating on core technologies involving the science of hair, body odor and skin, the Company strives to develop efficacious cosmetic products for consumers that are safe and convenient.

## Product Planning Based on Consumer Research Commercializing Products by Carefully Researching Trends in Consumer Lifestyles and Cosmetics and Identifying Wants

### From Research to Development on the Lúcido Series of Products to Combat “Middle-Age Body Odor”

Kicking off development in this area was a realization by a middle-aged member of the Company’s R&D staff. After enjoying a round of sports with his friends, in the changing room he became aware of a distinctive middle-aged odor. Another three years were required to identify the source of the odor and another year to understand the mechanism that produced it. It then took another two years to find a constituent and develop a product to curtail this mechanism. Altogether, the process required seven years.



### Visiting Consumer Households to Conduct Surveys

In Indonesia, we perform grass-roots product development that begins by conducting research at family homes.



## Technical Research to Curtail Unpleasant Stimuli from Using Cosmetic Products

### Preservative Free: Alkanediol Technology to Reduce the Tingling Sensation When Using Cosmetics

We have been conducting research to make products preservative-free, so that even consumers with particularly sensitive skin can use them safely. By studying the antibacterial properties of alkanediol with conventional moisturizer, we have succeeded in creating a “preservative-free” formula.

## Pursuing the Optimal Cooling Sensation: Making the “Icy” Sensation Last as Long as Possible

### Unique Technology to Maintain an “Icy” Sensation over Long Periods

As a result of studies into how to make the cooling sensation that comes from *l*-menthol last as long as possible, we have developed “Cooling Keeper,” a unique constituent that can be mixed with *l*-menthol to strengthen the cooling sensation. In our own evaluations, we have also confirmed that this constituent has the effect of maintaining this cooling sensation for longer periods.

### Pursuing a Cooling Sensation with a Finely Timed “Icy” Feeling

Using *l*-menthol in high concentrations can stimulate the skin unpleasantly, but our studies have shown that mixing it with Eucalyptol—a eucalyptus derivative—and naturally derived Borneol reduce unpleasant stimuli and provide a unique cooling sensation.

## Japan-Indonesia Collaborative Aging Care Research

### Conducting Japan-Indonesia Collaborative Research on Mandom’s Original Research Method for Anti-Photoaging and Usability of the Original Components

Mandom’s head office and PT Mandom Indonesia Tbk are collaborating on research into aging care. We have also asked Gadjra Mada University, a national university in Indonesia, to participate in this research. As a result, we have confirmed the effects of aging care on ameliorating wrinkles in research on women in Indonesia. Distinct from conventional cosmetics that seek to prevent gene damage due to ultraviolet light, our groundbreaking research seeks to restore genes that have been damaged.

