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## Ashland strengthens its position in hair biology with BiotHAIRapy™ biofunctionals

Bangkok, Thailand - Advancing the capabilities of personal care products, Ashland today unveiled its roadmap to beautiful hair based on BiotHAIRapy™ biofunctionals. The patented ingredient systems are inspired by key biological markers associated with hair growth capital, density, strength and color. Biologists from Ashland's Vincience research center presented ex vivo scalp models at the in-cosmetics Asia conference in Thailand today, demonstrating longterm beneficial effects with ingredient systems based on natural chemistry.

"Maintaining hair density, strength and color over time is one of the most valued attributes of consumers everywhere, yet it remains one of the most elusive," said Anne-Francoise Clay, marketing manager biofunctionals, Ashland Specialty Ingredients. "Our biologists looked at key markers present in normal hair and asked: How do we mimic or bolster those markers for better long-term outcomes in hair length, follicle integrity (after damage), strength and pigmentation? Our ex vivo studies, made available today, demonstrate viable platforms for beautiful hair."

Included in Ashland's BiotHAIRapy biofunctional platform for hair\* are a series of five offerings, each targeting a specific aesthetic benefit. The Hair Stemness System™, based on rice protein, may help mitigate the stress factors known to compromise hair growth capital. The Hair Fullness System™, based on corn protein, may support better intercellular communications, a process essential for hair density. The Hair Keratin System™, based on yeast extract, may contribute to structural proteins required for stronger, healthier-looking strands.

Another offering, the Hair Detox System™, serves as one of the first hair anti-aging solutions. With aging, a decrease in antioxidant enzyme (catalase) activity may be seen in hair follicles. Very often, accumulation of hydrogen peroxide becomes apparent. Tests show that oxidative stress with hydrogen peroxide depletes the melanin of hair follicles ex vivo. The Hair Detox System, based on natural pea proteins, may help preserve melanin in oxidative stress conditions.

Consumers in search of a strategy to preserve original hair color may consider hair care products formulated with the Hair Melanin System™. In ex vivo evaluations, this ingredient system based on flax seed proteins supported an increase in marker involved in melanin production within the hair follicle.

### Hair vitality is an unmet consumer need

Research scientists have explored a host of reasons why consumers struggle to maintain or rejuvenate their hair. Genetics, hormonal imbalances, improper diet, stress, aging and other factors are believed to contribute to deleterious effects on hair. Yet few options exist for consumers to rejuvenate hair discretely using simple leave-in serums and crème.

"Our objective with BiotHAIRapy biofunctionals is to give consumers options to address common hair problems with hair care formulations they are willing to use every day. In consumer panel studies, we used these Ecocert validated ingredient systems at low use levels in leave-in products, such as conditioning spray milk, with outstanding results after 90 days," said Clay.

For more information, visit Ashland at stand P30 during the in-cosmetics Asia conference and exhibition or contact Lizbeth Tham, marketing manager, care specialties, Ashland Specialty Ingredients at +65 6775 5366 and [Mtham@ashland.com](mailto:Mtham@ashland.com), or you can learn more at [Ashland.com/personalcare](http://Ashland.com/personalcare).

### About Ashland Specialty Ingredients

Ashland Specialty Ingredients is the #1 global producer of cellulose ethers and a global leader in vinyl pyrrolidones. It offers industry-leading products, technologies and resources for solving formulation and product-performance challenges. Using natural, synthetic and semisynthetic polymers derived from plant and seed extract, cellulose ethers and vinyl pyrrolidones, as well as acrylic and polyurethane-based adhesives, Specialty Ingredients offers comprehensive and innovative solutions for today's demanding consumer and industrial applications. Key customers include: pharmaceutical companies; makers of personal care products, food and beverages; manufacturers of paint, coatings and construction materials; packaging and converting; and oilfield service companies.

### About Ashland

Ashland Inc. (NYSE: ASH) is a global leader in providing specialty chemical solutions to customers in a wide range of consumer and industrial markets, including architectural coatings, automotive, construction, energy, food and beverage, personal care and pharmaceutical. Through our three commercial units – Ashland Specialty Ingredients, Ashland Performance Materials and Valvoline – we use good chemistry to make great things happen for customers in more than 100 countries. Visit [ashland.com](http://ashland.com) to learn more.

\* In the US, hair growth and hair loss prevention claims may fall under an OTC drug monograph 21 CFR Part 310. Similar restrictions may exist in other parts of the world. It is the purchaser's responsibility to determine the applicability of any drug or cosmetic regulations to its products.

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