## Preclinical Study of Neumentix<sup>™</sup> Illuminates Mechanism of Action in the Natural Antioxidant for Cognitive Performance

## Kemin ingredient enhances brain health with benefits for focus, learning, memory and reaction time

DES MOINES, Iowa, Oct. 27, 2020 /PRNewswire/ -- Kemin Industries, a global ingredient manufacturer that strives to sustainably transform the quality of life every day for 80 percent of the world with its products and services, announced today new preclinical research that expands the scientific understanding of the mechanism of action of Neumentix<sup>TM</sup>, a natural dietary ingredient shown to support cognitive and physical performance. The study results have been published in the peer-reviewed *Journal of Stroke and Cerebrovascular Diseases* and *Current Neurovascular Research*.

The new study found that Neumentix helped improve or restore cognitive and motor performance of mice following a mid-brain ischemic stroke. Animals treated with Neumentix before and after the procedure scored better in a sensory-motor functional assessment ("corner test") and presented less motor impairment than untreated animals.

Brain tissue analysis showed that Neumentix protected neurons by reducing the expression of markers of oxidative stress (4-HNE, CML, 8-OHdG) and inflammation (Iba-1, MCP-1, TNF-a). The markers over express following a stroke and may worsen brain damage. In addition, the study demonstrated that Neumentix improved the integrity of the blood-brain barrier. The positive results for the Neumentix group in the study were statistically significant compared with the control group.

"The present study provides evidence of Neumentix's anti-inflammatory and neuroprotective properties," said Koji Abe, M.D., Ph.D., Professor and Chairman of Neurology at Okayama University Medical School in Japan and lead researcher for the study. "This research further illuminates the mechanisms by which Neumentix supports brain health and cognitive function."

Neumentix's anti-inflammatory benefits result from its potent blend of more than 50 polyphenols. Extracted from a patented strain of spearmint, Neumentix contains high concentrations of rosmarinic acid as well as salvianolic, lithospermic and caftaric acids. These antioxidants protect brain and other cells against free radicals, which are unstable molecules produced naturally in the body as cells turn food into energy, or as a result of exposure to environmental toxins or radiation. Free radicals can damage healthy cells, proteins and DNA – all of which can lead to disease. In addition to reducing oxidative stress and the associated inflammation, research shows that Neumentix protects neurons and supports growth of new neurons. The key polyphenols present in Neumentix also help modulate the level of one of the neurotransmitters involved in learning, memory and neuroprotection.

Neumentix is a natural, patented spearmint (*Mentha spicata*) extract containing a unique, well-characterized phenolic complex rich in powerful antioxidants. Previous clinical research shows that Neumentix may improve working memory, the ability to concentrate and physical performance associated with agility and reaction time. Generally Recognized as Safe (GRAS) by the U.S. Food and Drug Administration and non-GMO Project Verified, Neumentix delivers lasting health benefits without disrupting sleep at night, as is common with stimulants.

"This important new research provides further evidence of the antioxidant strength of Neumentix, which protects neurons and gets to the right areas of the brain to enhance the ability to focus and support short-term memory and physical agility," said Kim Edwards, Global Product Manager, Kemin Human Nutrition and Health. "These multiple health benefits can differentiate products and enable a wide range of science-based marketing claims."

Neumentix was honored as a 2020 NutraIngredients-USA Award finalist in the category of cognitive function. Neumentix is naturally sourced from a patented line of Sustainably Grown Certified<sup>®</sup> by SCS Global Services spearmint, which is selected from more than 5,000 varieties for its extraordinary concentration of brain-supporting phenolic acids.

## About Kemin Industries

**Kemin Industries** (www.kemin.com) is a global ingredient manufacturer that strives to sustainably transform the quality of life every day for 80 percent of the world with its products and services. The company supplies over 500 specialty ingredients for human and animal health and nutrition, pet food, aquaculture, nutraceutical, food technologies, crop technologies and textile industries.

For over half a century, Kemin has been dedicated to using applied science to address industry challenges and offer product solutions to customers in more than 120 countries. Kemin provides ingredients to feed a growing

population with its commitment to the quality, safety and efficacy of food, feed and health-related products.

Established in 1961, Kemin is a privately held, family-owned-and-operated company with more than 2,800 global employees and operations in 90 countries, including manufacturing facilities in Belgium, Brazil, China, India, Italy, Russia, San Marino, Singapore, South Africa and the United States.

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