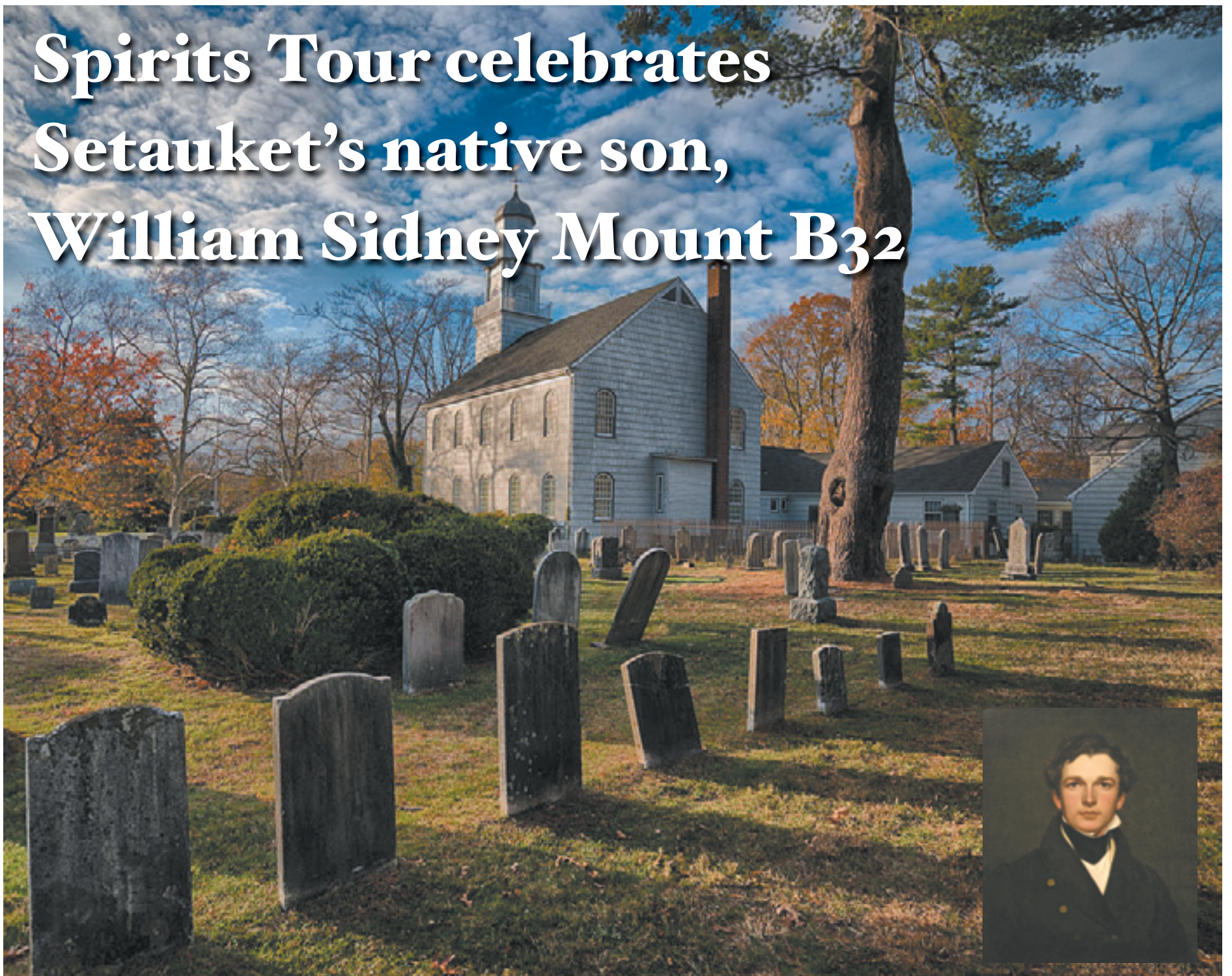


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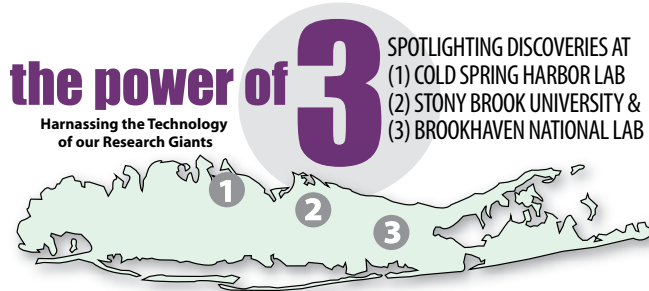
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KNOWLEDGE SEEKERS

SBU team fetches \$1.3 million award for pet periodontal treatment



BY DANIEL DUNAIEF

You might not be able to teach an old dog new tricks for a variety of reasons, including that your old dog might be suffering from periodontal disease. An inflammatory condition of the mouth that affects about 80 percent of dogs by the age of three, periodontal disease often starts out as gingivitis, a swelling or reddening of the gums, and then proceeds to affect the soft and hard tissues that support teeth.

Scientists and dentists at Stony Brook have developed a new treatment for periodontal disease for dogs, and, they hope, eventually for humans. The National Institute of Dental and Craniofacial Research, a unit of the National Institutes of Health, recently awarded Stony Brook University's School of Dental Medicine and Traverse Biosciences Inc., a Long Island research company, a \$1.3 million award to continue to evaluate the preclinical safety and effectiveness of TRB-NO224 to treat periodontal disease.

"The grant was approved for funding because a panel of nationally prominent dental and medical scientists agreed that our grant proposal, and our qualifications and academic records were exemplary," Lorne Golub, a distinguished professor in the Department of Oral Biology and Pathology explained in an email. Golub, who holds 55 patents and developed Periostat and Oracea, will lead the research, along with Ying Gu, an associate professor in the Department of General Dentistry at SBU.

While periodontal disease affects dogs, it is also widely prevalent among humans, with Golub calling it the "most common chronic inflammatory disease known to mankind."

Indeed, developing effective treatments is important not only for oral health, but it has implications for other con-

ditions that are complicated or exacerbated by the collagenase enzyme prevalent in periodontal disease.

"Some studies indicate that chronic periodontitis can increase the risk for pancreatic cancer, head and neck cancer, cardiovascular disease and others," Golub wrote in an email. "All of these diseases result in an increase in collagenase."

A challenge in treating periodontitis is that the enzyme that is a part of the inflammatory response, collagenase, is present, and necessary, in normal metabolism. Ridding the body of the enzyme would cause harm.

Golub worked with Francis Johnson, a professor of chemistry and pharmacological sciences at Stony Brook, to develop a new treatment using a modified form of curcumin, which is a bright yellow chemical that is a member of the ginger family.

Naturally occurring curcumin does provide some benefit for periodontal diseases, Golub said, although the modified version Johnson helped create is more effective.

"Very little" curcumin is absorbed from the gut into the blood stream after oral administration, Golub said.

The modification Johnson and Golub made was to make their variant triketonic. With the extra ketone, which has a negative charge, the attraction for zinc and calcium, which are a part of collagenase and have positive charges, is stronger, Golub said.

In dividing the work, Gu explained that Golub will supervise personnel, coordinate and oversee all experiments and provide technical oversight for the animal experiments and biochemical analysis. Gu will work with Hsi-Ming Lee, a research assistant professor in oral biology and pathology, to perform in vivo animal experiments and the biochemical analyses of pro-inflammatory mediator levels on blood, gin-



Photo courtesy of Stony Brook Medicine

From left, Lorne Golub, Joseph Scaduto, Francis Johnson, Ying Gu, Hsi-Ming Lee and Maria Ryan.

gival fluid and gingival tissue samples. He and Golub will perform data analysis and prepare publications together.

The scientific team involved in the study of TRB-NO224, which includes Maria Ryan, the chair of the Department of Oral Biology and Pathology, intends to develop this treatment for pets first. This, Golub suggested, was in part because the approval process for pet treatments is quicker to market. The group hopes additional research, including safety and efficacy studies, will lead them to apply to the Food and Drug Administration for human uses.

Ryan, who worked as a graduate student in Golub's lab before she became the head of the department, is pleased with the process and the track record of a department Golub helped start in 1973.

"I am proud to say that this is Department of Oral Biology and Pathology's fourth NIDCR grant for the development of new therapeutics for the management of periodontal diseases within the past four years," Ryan wrote in an email. "The aim of this funding mechanism is to move these novel compounds further along in the FDA drug development process."

Ryan added that the benefits of TRB-NO224 extended to other medical arenas and has led to collaborations with additional scientists. TRB-NO224 not only impacts enzymes such as collagenase, but also affects pro-inflammatory mediators, she said. "This new compound may be useful at preventing and/or treating numerous chronic conditions," Ryan said.

Studies are currently funded to investigate indications for osteoarthritis with the director of Orthopaedic Research, Daniel Grande, at the Feinstein Institute and for accurate respiratory distress syndrome with Gary Nieman at Syracuse University.

Golub has worked with international collaborators for decades. Some of them praised his legacy and the work he's continuing to do.

Golub's patents reflect his "everlasting translational mission from molecular and biotechnological medical/dental research to doctors' daily and every-day practice," wrote Timo Sorsa, the Chief Dental Officer in Periodontology at the University of Helsinki Central Hospital in Finland in an email. Golub received an honorary M.D. from the University of Helsinki in 2000.

A resident of Smithtown, Golub lives with his wife Bonny, who is a travel agent. They have two children, Marlo and Michael, and four grandchildren.

Golub and his wife were among the first to see a showing at the New Community Cinema in Huntington, now the Cinema Arts Centre, in their own folding chairs. They watched one of Golub's favorite films, "Henry V," with Sir Laurence Olivier.

Golub is optimistic about the prospects and progress on TRB-NO224. "We are beginning to see evidence of efficacy in a variety of diseases," he offered. He also believes the treatment may have rapid acceptance because natural curcumin has been used for decades in a number of populations and is "believed to be safe and effective."

Farmers markets

East Setauket

Support the East Setauket Farmers Market next to the Three Village Historical Society, 93 N. Country Road, East Setauket Fridays from 4 to 7 p.m. through Oct. 29. Over 30 vendors feature local products. Rain or shine. Questions? Call 516-551-8461.

Holbrook

Sunrise Craft & Farmers Market is held at the Sun Vet Mall parking lot, 5801 Sunrise Highway, Holbrook 9 a.m. to 5 p.m. Saturdays and Sundays through Nov. 20. Find local jams, breads, vegetables, crafts, antiques and more. For details call 631-667-3976.

Huntington

The Huntington Center Farmers Market at 238 Main St., Huntington is held Sundays 7 a.m. to noon through Nov. 20. Enjoy fruits, vegetables, pies, homemade ice cream, vegan and organic items, pet treats and much more. Call 631-323-3653.

Kings Park

Looking for Long Island fruits and vegetables, poultry and eggs, gluten-free cookies and much more? Visit the Kings Park Farmers Market in the municipal lot at the corner of Route 25A and Main St., Kings Park Sundays from 9 a.m. to 2 p.m. through Nov. 20. Questions? Call 516-543-6033 or visit www.ligreenmarket.org.

Mount Sinai

The Rose Caracappa Senior Center, 739 Route 25A, Mount Sinai hosts a farmers market Saturdays 9 a.m. to 2 p.m. through Oct. 29. Choose from organic products, fruits, cheesecakes, gluten-free products, cutting boards, pies, breads, soaps and much more. Questions? Call 516-551-8461.

Nesconset

The Nesconset Plaza, 127 Smithtown Blvd., Nesconset hosts a farmers market Saturdays 9 a.m. to 1 p.m. through Nov. 16, featuring potted plants, organic fruits and vegetables, eggs, cheeses and much more. Call 516-543-6033 or visit www.ligreenmarket.org.

Northport

A farmers market is held in Northport in the Cow Harbor parking lot on the harbor Saturdays 8 a.m. to noon through Nov. 19, rain or shine. Choose from fresh fruits, crafts, flowers, vegetables and fish from local farms, merchants and fishermen. Call 631-754-3905.

Port Jefferson

The Village of Port Jefferson hosts a farmers market next to The Frigate at the corner of Main Street and Broadway Sundays 9 a.m. to 2 p.m. through November. Find local produce, honey, bread and baked goods, seafood, international specialties, plants and flowers. Enjoy live music. Call 516-551-8461.

Rocky Point

Rocky Point Farmers & Artisans Market is held at Old Depot Park, 115 Prince Road, Rocky Point Sundays 8 a.m. to 1 p.m. through Nov. 20. Find local produce, baked goods, craft beer, natural meats, dips/spices and more. For additional information, visit www.rockypointfarmersmarket.org.