The Lord is like a strong tower, where the righteous can go and be safe.
Proverbs 18:10

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Nagmamalasakit sa lalawigan

Be alert, stand firm in the faith, be brave, be strong.
1 Corinthians 16:13

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Cavite orders 3 million doses of Novavax COVID-19 vaccine

The provincial government of Cavite has ordered three million doses of COVID-19 vaccine from US biotech firm Novavax to beef up the inoculation program of the national government, Gov. Jonvic Remulla said last April 7.

"We ordered 3,000,000 doses of NOVAVAX (US) para mapabakunahan ang may 1,500,000 na katao sa Cavite ng libre," Remulla said in a Facebook post.

Remulla said the Novavax vaccines will be alloted for residents aged 18 to 59. The vaccines are expected to be delivered as early as July and not later than December.

Remulla added that local government units (LGUs) in the province raised P1.8 billion for the vaccine procurement initiative.

The amount, he said, already covers expenses for logistics, storage, delivery and registration.


REMULLA

Meanwhile, Remulla encouraged his constituents to trust the vaccination program of the government as he countered theories about the vaccines.

He noted that vaccines are necessary to stop the pandemic and that vaccines have long been proven to be effective against pandemics in the past.

"During these critical times, the more we need to rely on the medical and scientific process," he said.

"Getting yourself vaccinated will not bring about the end of the world. Rather, it may finally bring about the end of COVID-19. So let us all choose to be free from this dreaded virus so that all of us can hold hands once again," he added.

"As of 3PM on April 6 (Tuesday), there were a total of 1,844 [new] positive cases with at least 6,303 active cases," he

Turn to page 2

PNP probes death of curfew violator in GenTri

The Philippine National Police has tapped its investigators in Calabarzon (Cavite, Laguna, Batangas, Rizal and Quezon) region to look into claims that a curfew violator in Cavite province died after he was asked to do a strenuous exercise routine by local policemen.

Lt. Gen. Cesar Hawthorne Binag, the PNP deputy chief for operations and Joint Task Force Coronavirus Disease (COVID) Shield commander, directed a team in the Calabarzon police office to investigate the incident despite denials by the General Trias City police of having inflicted physical punishment on violators of the strict lockdown.


BINAG

Binag was referring to the incident involving 28-year-old Darren Peñaredondo (identified in social media posts as Darren Manaog), who died two days after he and seven other lockdown ordinance violators in General Trias were allegedly asked to do pumping exercises, with repetitions reaching several hundreds, by policemen.

Lt. Col. Mario Solero, General Trias police chief, maintained last April 6 that his unit had never imposed physical exercise as punishment for non-observance of health protocols and curfew violation.

Information shared by Peñaredondo's family to the rights group Karapatan said he was on his way to buy water when accosted by

Turn to page 2

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PAPI
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Scientists scour genes of 53,000+ people to better battle dangerous diseases

A new analysis of the entire genetic makeup of more than 53,000 people offers a bonanza of valuable insights into heart, lung, blood and sleep disorders, paving the way for new and better ways to treat and prevent some of the most common causes of disability and death.

The analysis from the Trans-Omics for Precision Medicine (TOPMed) program examines the complete genomes of 53,831 people of diverse backgrounds on different continents. Most are from minority groups, which have been historically underrepresented in genetic studies. The increased representation should translate into better understanding of how heart, lung, blood and sleep disorders affect minorities and should help reduce longstanding health disparities.

"The Human Genome Project has generated a lot of promises and opportunities for applying genomics to precisiim medicine, and the TOPMed program is a major step in this direction," said Stephen S. Rich, PhD, a genetics researcher at the University of Virginia School of Medicine who helped lead the project. "An important feature of TOPMed is not only publishing the genomic data on 53,000 people with massive amounts of data related to heart, lung, blood and sleep disorders but also the great diversity of the participants who donated their blood and data."

The groundbreaking work identified 400 million genetic variants, of which more than 78% had never been described. Nearly 97% were extremely rare, occurring in less than 1% of people. This sheds light on both how genes mutate and on human evolution itself, the researchers say.

Of the groups studied, people of African descent had the greatest genetic variability, the researchers found. The resulting data is the best ever produced on people of African ancestry, the scientists report in the journal Nature.

(PNP. from page 1)

by barangay officials.

Undersecretary Jonathan Malaya of the Department of Interior and Local Government confirmed that an investigation was ongoing.

"I wish to assure the public that if it would turn out that the police committed violations in this incident in Cavite, we will hold them accountable and file administrative and criminal cases against those shown in the investigation to be involved in violating the law," Malaya said at the Laging Handa briefing.

Solero said Peñaredondo was among eight men rounded up on April 1 by Barangay Tejero officials for violating the 6 p.m. curfew as well as for failing to wear masks and face shields. They were turned over to the city police station. According to Solero, before violators are released to the custody of village officials, their pictures are taken and logged "to ensure that they were released in good physical condition."

Malaya said the local government of General Trias would also look into possible lapses on the part of barangay officials.

(CAVITE. from page 1)

said, citing information from the Department of Health Center for Health Development in Calabarzon.

"These days, it's reaching quite close to home and the so-called six degrees of separation. Kalbigan. Kamag-anak. Katrabaho. As netizens observed: 'Facebook has turned into an obituary,'" the governor added.

Mayor Antonio Ferrer, in a Facebook post, said the local government had been implementing health and safety protocols to curb the rise of COVID-19 cases in the city but stressed that physical punishment was never used against violators.

REPUBLIC OF THE PHILIPPINES
REGIONAL TRIAL COURT
FOURTH JUDICIAL REGION
BRANCH 23
TRECE MARTIRES CITY

IN RE: PETITION FOR CORRECTION OF TECHNICAL DESCRIPTION IN TRANSFER CERTIFICATE OF TITLE NOS. T-1196804 AND T-1196805

ACM PROPERTY VENTURES INC., REPRESENTED BY JOSE NINO GOMEZ

Petitioner

LRC CASE NO. 5964-875-15A

-versus-

REGISTRY OF DEEDS FOR THE PROVINCE OF CAVITE

Respondent.

x----------x

ORDER

A verified petition for correction of technical description of Transfer Certificate of Title Nos. T-1196804 and T-1196805, in the name of registered owner, was filed by petitioner.

Finding the aforementioned petition to be sufficient in form and substance, the same is hereby set for initial hearing on **May 20, 2021 at 8:30 in the morning,** where any and /or all parties interested may oppose the said petition.

Let copy of this Order be published at least once a week for three (3) consecutive weeks in a newspaper of general circulation within the Province of Cavite at the expense of the petitioner and be posted at the Bulletin Board of Government Center Building, Trece Martires City, Public Market, Municipal and Barangay Hall, where the property is situated as well as on the land itself located at Barangay of Navarro, Municipality of Gen. Trias, Province of Cavite, and other copies together with the petition be furnished the Register of Deeds for the Province of Cavite, Office of the Land Registration Authority, Office of the Land Management Bureau, Office of the Solicitor General, petitioner and its counsel.

In view thereof, the petitioner or his/her duly authorized representative is hereby directed to immediately coordinate with the sheriff of this Court as regards the posting of this Order on the land which is the subject of this petition.

SO ORDERED.

Trece Martires City, March 5, 2021.

(Sgd.) **PURIFICACION A. BARING TUVERA**
Presiding Judge

Copy Furnished:

Atty. Maria Inez C. Tagle
4th Floor, CSJ Building, 105 Aguirre St.,
Legaspi Village, Makati City 1229

ACM PROPERTY VENTURES INC.,
c/o JOSE NINO GOMEZ
5/F, CSJ Building, 105 Aguirre St.,
Legaspi Village, Makati City 1229

Register of Deeds for the Province of Cavite
Capital Site, Trece Martires City, Cavite 4109

Office of the Solicitor General
134 Amorsolo St., Legaspi Vill.,
Makati City 1229

Office of the Land Registration Authority
LRA Bldg., East Ave., Diliman, Quezon City 1101

Office of the Land Management Bureau
880 F.R. E Building Quezon Ave.,
Barangay Paligsahan, Quezon City 1111

Publication : DIYARYO KABITENYO
Dates : March 29, April 5 & 12, 2021

DEED OF EXTRA JUDICIAL SETTLEMENT OF THE ESTATE OF DECEASED ROSALIA A. QUIRANTE

NOTICE is hereby given that the estate of the late **ROSALIA A. QUIRANTE** who died intestate on May 4, 2019 at Las Pinas City, consisting of One (1) parcel of land located at City of Dasmarinas, Province of Cavite, with improvements thereon, containing an area of TWO HUNDRED (200) SQUARE METERS, and covered by TCT No. T-994104 of the Register of Deeds for the Province of Cavite has been adjudicated and extra-judicially settled by and among her heirs in pro indiviso or in equal shares on March 1, 2021 at Tagaytay City, Cavite, Philippines before Notary Public Atty. Valentin C. Guanio and entered in his Notarial Register as Doc. No. 139; Page No. 29; CLXXIX; Series of 2021.

(Sgd.) **All Heirs**

Publication : DIYARYO KABITENYO
Dates : March 29, April 5 & 12, 2021

Doping by athletes could become tougher to hide with new detection method

As the world awaits the upcoming Olympic games, a new method for detecting doping compounds in urine samples could level the playing field for those trying to keep athletics clean. Today, scientists report an approach using ion mobility mass spectrometry to help regulatory agencies detect existing dopants and future "designer" compounds.

The researchers present their results April 5, 2021 at the spring meeting of the American Chemical Society (ACS).

Each year, the World Anti-Doping Agency (WADA) publishes a list of substances, including steroids, that athletes are prohibited from using. However, it can be difficult to distinguish an athlete's natural or "endogenous" steroids from synthetic "exogenous" ones administered to boost performance.

And regulatory bodies face another challenge: "As quickly as we develop methods to look for performance-enhancing drugs, clandestine labs develop new substances that give athletes a competitive advantage," says Christopher Chouinard, Ph.D., the project's principal investigator. Those designer drugs evade detection if testing labs don't know to look for their specific chemical structures.

DEED OF EXTRAJUDICIAL SETTLEMENT, PARTITION AND ADJUDICATION OF THE ESTATES OF PRUDENCIO A. PAKINGAN

NOTICE is hereby given that the estate of the deceased **PRUDENCIO A. PAKINGAN** who died intestate on January 13, 2014 at Pasong Buaya 1, City of Imus, Cavite, consisting of two (2) parcels of land without improvement erected thereon, both located at Pasong Buaya 1 City of Imus, Cavite, more particularly described as follows:

Transfer Certificate of Title No. T-822217

A parcel of land containing an area of TWO HUNDRED FORTY SIX (246) SQUARE METERS, more or less;

Transfer Certificate of Title No. T-825154

A parcel of land containing an area of ONE HUNDRED FORTY SEVEN (147) SQUARE METERS, more or less,

has been adjudicated and extrajudicially settled by and among his heirs in equal share, pro indiviso on March 23, 2021 at Imus, Cavite before Notary Public Atty. Gabriel B. Octava and entered in his Notarial Register as Doc. No. 98; Page No. 20; Book No. VII; Series of 2021.

(Sgd.) **Surviving Spouse and Surviving Children with conformity of spouses**

Publication : DIYARYO KABITENYO
Dates : March 29, April 5 & 12, 2021

DEED OF EXTRA JUDICIAL SETTLEMENT OF THE ESTATE OF BRENDA D. DOMINGO WITH WAIVER OF RIGHTS

NOTICE is hereby given that the estate of the late **BRENDA D. DOMINGO** who died intestate on November 4, 2005 at Burnaby, British Columbia Canada, consisting of one-half (1/2) undivided conjugal share in a parcel of land situated in the Brgy. of Salitran, Mun. of Dasmarinas, Prov. of Cavite, covered by Transfer Certificate of Title No. T-1051894, containing an area of ONE HUNDRED FORTY (140) SQUARE METERS has been adjudicated and extra-judicially settled by and between her heirs in equal shares with waiver of rights, participation and interest over the subject property in favor of BERNARD P. DOMINGO on September 16, 2020 at Tagaytay City, Cavite, Philippines before Notary Public Atty. Valentin C. Guanio and entered in his Notarial Register as Doc. No. 145; Page No. 30; Book No. CLXXIII; Series of 2020.

(Sgd.) **Both Heirs**

Publication : DIYARYO KABITENYO
Dates : March 29, April 5 & 12, 2021

New method expands the world of small RNAs

A team led by a biomedical scientist at the University of California, Riverside, has developed a new RNA-sequencing method -- "Panoramic RNA Display by Overcoming RNA Modification Aborted Sequencing," or PANDORA-seq -- that can help discover numerous modified small RNAs that were previously undetectable.

RNA plays a central role in decoding the genetic information in DNA to sustain an organism's life. It is generally known as the intermediate molecule used to synthesize proteins from DNA. Cells are full of RNA molecules in complex and diverse forms, two main types being ribosomal RNA, or rRNA; and transfer RNA, or tRNA; which are involved in the synthesis of proteins.

Small RNAs play essential roles in health and diseases, including cancer, diabetes, neurological diseases, and infertility. Examples of small RNAs are microRNA; piwi-interacting RNA, or piRNA; and tRNA-derived small RNA, or tsRNA. Small RNAs can get modified by chemical groups and thus acquire new functions.

The development of high-throughput RNA sequencing technologies -- useful for examining the quantity and sequences of RNA in a biological sample -- has uncovered an expanding repertoire of small RNA populations that fine-tune gene expression and protect genomes.

"PANDORA-seq can be widely used to profile small RNA landscapes in various physiological and disease conditions to facilitate the discovery of key regulatory small RNAs involved in these conditions," said Qi Chen, an assistant professor of biomedical sciences in the UCR School of Medicine, who led the study published April 5, 2021 in Nature Cell Biology. "Modified small RNAs wear an 'invisibility cloak' that prevents them from being detected by traditional RNA-sequencing methods. How many such modified RNAs are there? What is the origin of their sequences? And what exactly is their biological function? These are questions PANDORA-seq may be able to answer."

PANDORA-seq employs a stepwise enzymatic treatment to remove key RNA modifications, which then takes off the invisibility cloak used by the modified small RNAs.

"PANDORA-seq has opened Pandora's box of small RNAs," said Tong Zhou, a bioinformatician at the University of Nevada, Reno School of Medicine and a co-corresponding author of the study. "We can now dance with these once invisible partners in the RNA ballroom."

Mice with hallucination-like behaviors reveal insight into psychotic illness

The humble lab mouse has provided invaluable clues to understanding diseases ranging from cancer to diabetes to COVID-19. But when it comes to psychiatric conditions, the lab mouse has been sidelined, its rodent mind considered too different from that of humans to provide much insight into mental illness.

A new study, however, shows there are important links between human and mouse minds in how they function -- and malfunction. Researchers at Washington University School of Medicine in St. Louis devised a rigorous approach to study how hallucinations are produced in the brain, providing a promising entry point to the development of much-needed new therapies for schizophrenia.

The study, published April 2 in the journal Science, lays out a way to probe the biological roots of a defining symptom of psychosis: hallucinations. The researchers trained people and mice to complete a computer-based task that induced them to hear imaginary sounds. By analyzing performance of the task, the researchers were able to objectively measure hallucination-like events in people and mice. This innovative approach allowed them to study the neural circuits underlying hallucinations, opening up mental symptoms to the kind of scientific studies that have been so fruitful for diseases of other parts of the body.

"It's so easy to accept the argument that psychosis is a fundamentally human thing and say, 'Forget about mice'," said senior author Adam Kepecs, PhD, a professor of neuroscience and of psychiatry, and a BJC Investigator at the School of Medicine. "But right now, we're failing people with serious psychiatric conditions. The prognosis for psychotic patients has not substantially improved over the past decades, and that's because we don't really understand the neurobiology of the disease. Animal models have driven advances in every other field of biomedicine. We're not going to make progress in treating psychiatric illnesses until we have a good way to model them in animals."

Psychosis occurs when a person loses touch with reality. During a psychotic episode, people may acquire false beliefs (delusions) or confidently believe that they are seeing or hearing things that are not occurring (hallucinations). A psychotic episode can be a sign of a serious mental illness such as schizophrenia or bipolar disorder, but people without mental illness also can experience symptoms such as hallucinations.

To study how hallucinations occur, Kepecs -- with first author Katharina Schmack, MD, PhD, of Cold Spring Harbor Laboratory, and colleagues -- set up a computer game that could be completed by both people and mice. The researchers played a particular sound, and subjects indicated that they'd heard it by clicking a button (people) or poking their noses into a port (mice). The task was made challenging by obscuring the sound with background noise. People in the study rated how confident they felt that they'd accurately identified a real sound by moving a slider on a scale; mice indicated their confidence by how long they waited for a reward. When a subject confidently reported that he or she had heard a sound that was not actually played, the researchers labeled that a hallucination-like event.

While simple in design, the task appeared to tap into the brain circuits underlying hallucinations. People with more hallucination-like events during the experiment also were more likely to experience spontaneous hallucinations -- as measured by questionnaires designed to evaluate psychiatric symptoms in the general population -- even though no participants were diagnosed with a psychiatric condition.

People's beliefs and expectations can prime them to experience hallucinations. Expecting to hear a certain word makes it more likely that people actually report that they have heard it, even when it wasn't spoken. In fact, previous studies have shown that people who are prone to hallucinations are particularly susceptible to this kind of priming.

New blueprint of brain connections reveals extensive reach of central regulator

Thousands of our daily activities, from making coffee to taking a walk to saying hello to a neighbor, are made possible through an ancient collection of brain structures tucked away near the center of the cranium.

The cluster of neurons known as the basal ganglia is a central hub for regulating a vast array of routine motor and behavior functions. But when signaling in the basal ganglia is weakened or broken, debilitating movement and psychiatric disorders can emerge, including Parkinson's disease, Tourette's syndrome, attention deficit hyperactivity disorder (ADHD) and obsessive-compulsive disorder.

Despite its central importance in controlling behavior, the specific, detailed paths across which information flows from the basal ganglia to other brain regions have remained poorly charted. Now, researchers at the University of California San Diego, Columbia University's Zuckerman Institute and their colleagues have generated a precise map of brain connectivity from the largest output nucleus of the basal ganglia, an area known as the substantia nigra pars reticulata, or SNr. The findings offer a blueprint of the area's architecture that revealed new details and a surprising level of influence connected to the basal ganglia.

The results, spearheaded by Assistant Project Scientist Lauren McElvain and carried out in the Neurophysics Laboratory of Professor David Kleinfeld at UC San Diego, and the laboratory of Zuckerman Institute Principal Investigator Rui Costa, are published April 5 in the journal Neuron.

The research establishes a new understanding of the position of the basal ganglia in the hierarchy of the motor system. According to the researchers, the newly identified pathways emerging from the connectivity map could potentially open additional avenues for intervention of Parkinson's disease and other disorders tied to the basal ganglia.

"With the detailed circuit map in hand, we can now plan studies to identify the specific information conveyed by each pathway, how this information impacts downstream neurons to control movement and how dysfunction in each output pathway leads to the diverse symptoms of basal ganglia diseases," said McElvain.

With support from the NIH's Brain Research through Advancing Innovative Neurotechnologies® (BRAIN) Initiative, the researchers developed the new blueprint working in mice by applying a modern neuroscience toolset that combines techniques from genetics, virus tracing, automated microscopic imaging of whole-brain anatomy and image processing. The results revealed surprising new insights about the breadth of connections.

"These results are an example of how researchers supported by the BRAIN Initiative are using the latest brain mapping tools to change in a fundamental way our understanding of how the connections in the brain's circuits are organized," said John J. Ngai, director of the NIH's BRAIN Initiative.

Previous work had emphasized that the basal ganglia architecture is dominated by a closed-loop with output projections connecting back to input structures. The new study reveals the SNr broadcasts even to lower levels of the motor and behavior system. This includes a large set of brainstem regions with direct connections to the spinal cord and motor nuclei that control muscles via a small number of intervening connections.

"The new findings led by Dr. McElvain offer an important lesson in motor control," said Kleinfeld, a professor in the Division of Biological Sciences (Section of Neurobiology) and Division of Physical Sciences (Department of Physics). "The brain does not control movement though a hierarchy of commands, like the 'neural networks' of self-driving cars, but through a scheme of middle management that directs motor output while informing the executive planners."

Masks, ventilation stop COVID spread better than social distancing, study shows

A new study from the University of Central Florida suggests that masks and a good ventilation system are more important than social distancing for reducing the airborne spread of COVID-19 in classrooms.

The research, published recently in the journal Physics of Fluids, comes at a critical time when schools and universities are considering returning to more in-person classes in the fall.

"The research is important as it provides guidance on how we are understanding safety in indoor environments," says Michael Kinzel, an assistant professor in UCF's Department of Mechanical and Aerospace Engineering and study co-author.

"The study finds that aerosol transmission routes do not display a need for six feet social distancing when masks are mandated," he says. "These results highlight that with masks, transmission probability does not decrease with increased physical distancing, which emphasizes how mask mandates may be key to increasing capacity in schools and other places."

In the study, the researchers created a computer model of a classroom with students and a teacher, then modeled airflow and disease transmission, and calculated airborne-driven transmission risk.

The classroom model was 709 square feet with 9-foot-tall ceilings, similar to a smaller-size, university classroom, Kinzel says. The model had masked students -- any one of whom could be infected -- and a masked teacher at the front of the classroom.

The researchers examined the classroom using two scenarios -- a ventilated classroom and an unventilated one -- and using two models, Wells-Riley and Computational Fluid Dynamics. Wells-Riley is commonly used to assess indoor transmission probability and Computational Fluid Dynamics is often used to understand the aerodynamics of cars, aircraft and the underwater movement of submarines.

Masks were shown to be beneficial by preventing direct exposure of aerosols, as the masks provide a weak puff of warm air that causes aerosols to move vertically, thus preventing them from reaching adjacent students, Kinzel says.

Additionally, a ventilation system in combination with a good air filter reduced the infection risk by 40 to 50% compared to a classroom with no ventilation. This is because the ventilation system creates a steady current of air flow that circulates many of the aerosols into a filter that removes a portion of the aerosols compared to the no-ventilation scenario where the aerosols congregate above the people in the room.

These results corroborate recent guidelines from the U.S. Centers for Disease Control and Prevention that recommend reducing social distancing in elementary schools from six to three feet when mask use is universal, Kinzel says.

"If we compare infection probabilities when wearing masks, three feet of social distancing did not indicate an increase in infection probability with respect to six feet, which may provide evidence for schools and other businesses to safely operate through the rest of the pandemic," Kinzel says.

"The results suggest exactly what the CDC is doing, that ventilation systems and mask usage are most important for preventing transmission and that social distancing would be the first thing to relax," the researcher says.

When comparing the two models, the researchers found that Wells-Riley and Computational Fluid Dynamics generated similar results, especially in the non-ventilated scenario, but that Wells-Riley underpredicted infection probability by about 29 percent in the ventilated scenario.

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Scientists show technology can save people from shark bites

With shark bites increasing in countries like Australia — scientists say the use of personal electronic deterrents is an effective way to prevent future deaths and injuries which could save the lives of up to 1063 Australians along the coastline over the next 50 years.

The research, published in scientific journal Royal Society Open Science, shows that while shark bites are rare events, strategies to reduce shark-bite risk are also valuable because they can severely affect victims and their support groups — with one third of victims experiencing post-traumatic stress disorder.

The researchers analysed per-capita shark bites around Australia from 1900 to 2020 and developed models to estimate the preventative impact of electronic deterrents if they were worn by water users, to predict how many shark bites could be avoided.

With the incidence of bites increasing worldwide, researchers used the Australian Shark Attack File curated by Taronga Conservation Society Australia to develop the models of incidents, and then projected these shark bites to 2066 when the population is expected to rise to 49 million.

There were 985 incidents reported in the Australian Shark Attack File from 1900 to 2020 from 20 different species.

Lead author Professor Corey Bradshaw of Flinders University says efforts to reduce the risk of shark bites, even if they are extremely rare, are valuable with electronic deterrents capable of reducing the likelihood of a bite by about 60%, potentially saving hundreds of lives over the next 50 years.

Understanding itch: New insights at the intersection of the nervous system and immune system

Eczema, or atopic dermatitis (AD), is sometimes called "the itch that rashes." Often, the itch begins before the rash appears, and, in many cases, the itchiness of the skin condition never really goes away. Approximately 9.6 million children and 16.5 million adults in the U.S. have AD, which can have a serious effect on quality of life for patients. Although much has been learned about the uncomfortable sensation that triggers the desire to scratch, many mysteries remain about chronic itch, making it a challenge to treat. A paper by authors from Brigham and Women's Hospital and Harvard Medical School published in The Proceedings of the National Academy of Sciences, offers new clues about the underlying mechanisms of itch. Findings suggest a key molecular player known as cysteine leukotriene receptor 2 (CysLT2R) that may be a new target for intractable chronic itch.

"In atopic dermatitis, the itching can be horrific and it can aggravate disease," said co-corresponding author K. Frank Austen, MD, a senior physician in the Division of Allergy and Clinical Immunology at the Brigham. Austen is also the AstraZeneca Professor of Respiratory and Inflammatory Diseases, Emeritus, at Harvard Medical School. "We began collaborating for two reasons: one is an interest in science — I wandered into the study of what is now the cysteine leukotriene pathway decades ago, and I've been pursuing it ever since. The second reason is itch — understanding its cause and connections to neurons."

Austen and his lab, which focuses on the molecular components that contribute to allergic inflammation, collaborated with Isaac Chiu, PhD, an assistant professor of Immunology at Harvard Medical School. The team also included researchers at the Center for Immunology & Inflammatory Diseases at Massachusetts General Hospital and at the University of Texas at Dallas.

"As a neuro-immunologist, I'm interested in how the nervous system and immune system cross-talk," said Chiu, co-corresponding author of the study.