Current Research

Potential New Therapy for Kidney Failure

By Craig LeMoult

Columbia University Medical Center researchers have identified a protein that may provide a powerful new therapeutic tool for fighting kidney failure. The research, published in the March issue of the Journal of Clinical Investigation, shows that a protein known as Ngal, can protect mice from kidney, or renal, failure, suggesting its great potential as a therapeutic tool for humans.

Kidney failure is a significant risk for patients undergoing cardiovascular bypass surgery, radiologic testing or antibiotic therapy or for inpatients suffering from severe infections. More than 80 percent of patients with postoperative acute renal failure die.

The study also shows that the protein is highly accumulated in blood, urine and kidney tissue at the onset of acute renal failure, making it an effective marker for diagnosing kidney failure in its initial stages.

“We found that although Ngal exists in high amounts early in failing kidneys, it is still produced too late to prevent the damage,” said Jonathan Barasch, assistant professor of medicine at the College of Physicians and Surgeons and lead principal investigator in the study. “But if we inject the protein earlier, we can protect mice from renal failure.”

Columbia’s president Lee C. Bollinger has set the Future of Journalism, April 15, 2005, and the Newsroom of the Future, in which he voiced his belief that journalists need institutions that would help them prepare journalists to excel in 21st century reporting and editing.

An innovative Master of Arts program, the first professional degree offered by the school since the introduction of its renowned Master of Journalism program 70 years ago, opens its doors to 25 students this fall.

Drawing upon the University’s extensive resources and expertise, the curriculum will provide subject area training in a broad range of academic disciplines. Students will write on difficult topics. “The new M.A. program grows out of an extensive two-year review of the future of journalism education led by President Bollinger,” said Nicholas Lemann, dean of the Journalism School.

The new M.A. program is revolutionary in the journalism world, said Nicholas Lemann, Henry R. Luce Professor and dean of the Journalism School. “By offering a comprehensive set of subjects that journalists can study and by bringing a great deal of the instruction into the Journalism School, we hope to educate reporters and editors who can bring real subject matter understanding to the stories they will write on difficult topics.”

The new M.A. program is designed to educate reporters and editors who can show mastery of journalism fundamentals through professional accomplishment.

The new M.A. program will be offered as an optional second year for graduates of the M.S. program, as well as for non-graduates who can show mastery of journalism fundamentals through professional accomplishment.

Students will take five courses per term. The “History of Journalism,” taught by faculty of the Journalism School, “Evidence and Inference,” taught by Dean Nicholas Lemann, will be mandatory. Students will also take a seminar in one of four key fields: media and society, political journalism or business and economics journalism, or science and medical journalism.

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The Growing Urbanization of the World

GRUMP mapping project finds urban areas increasing in surprising ways.

The growing urbanization of the world has been occurring in surprisingly large areas. The rate at which the phenomenon has been occurring, however, has proven difficult to determine. Adding a spatial dimension to population estimates, a new and innovative collection of data finds that as much as three percent of the Earth’s land area has already been urbanized, which is double previous estimates.

This new data collection, known as the Global Rural Urban Mapping Project, or GRUMP, has provided the basis for a number of important insights not previously known. This project is led by the Center for International Earth Science Information Network (CIESIN), part of the Earth Institute.

The following are a few key insights from GRUMP:

• Twenty percent of the world’s urban settlements have populations below 500,000. This is an important finding, considering that the UN Population Division only reports on urban settlements of 500,000 inhabitants or more.

• Roughly 3 percent of the Earth’s land surface is occupied by urban areas, an increase of at least 50 percent over previous estimates that urban areas occupied 1-2 percent of the Earth’s total land area.

• Coastal environments have much higher concentrations of urban land area (10 percent) and urban populations (65 percent) than other ecosystems.

• Far fewer Asian and African urban residents live in coastal and cultivated areas of tropical rainforests in the Americas, Europe and Oceania.

However, population densities in coastal cities of Asia and Africa are much greater than those on other continents.

• Approximately 7 percent of urban dwellers now reside in the world’s largest megapoles, whereas experts had previously estimated this number to be around 4 percent.

• About 75,000 distinct settlements worldwide, but only 24,000 urban areas—the result of many agglomerated urban settlements.

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