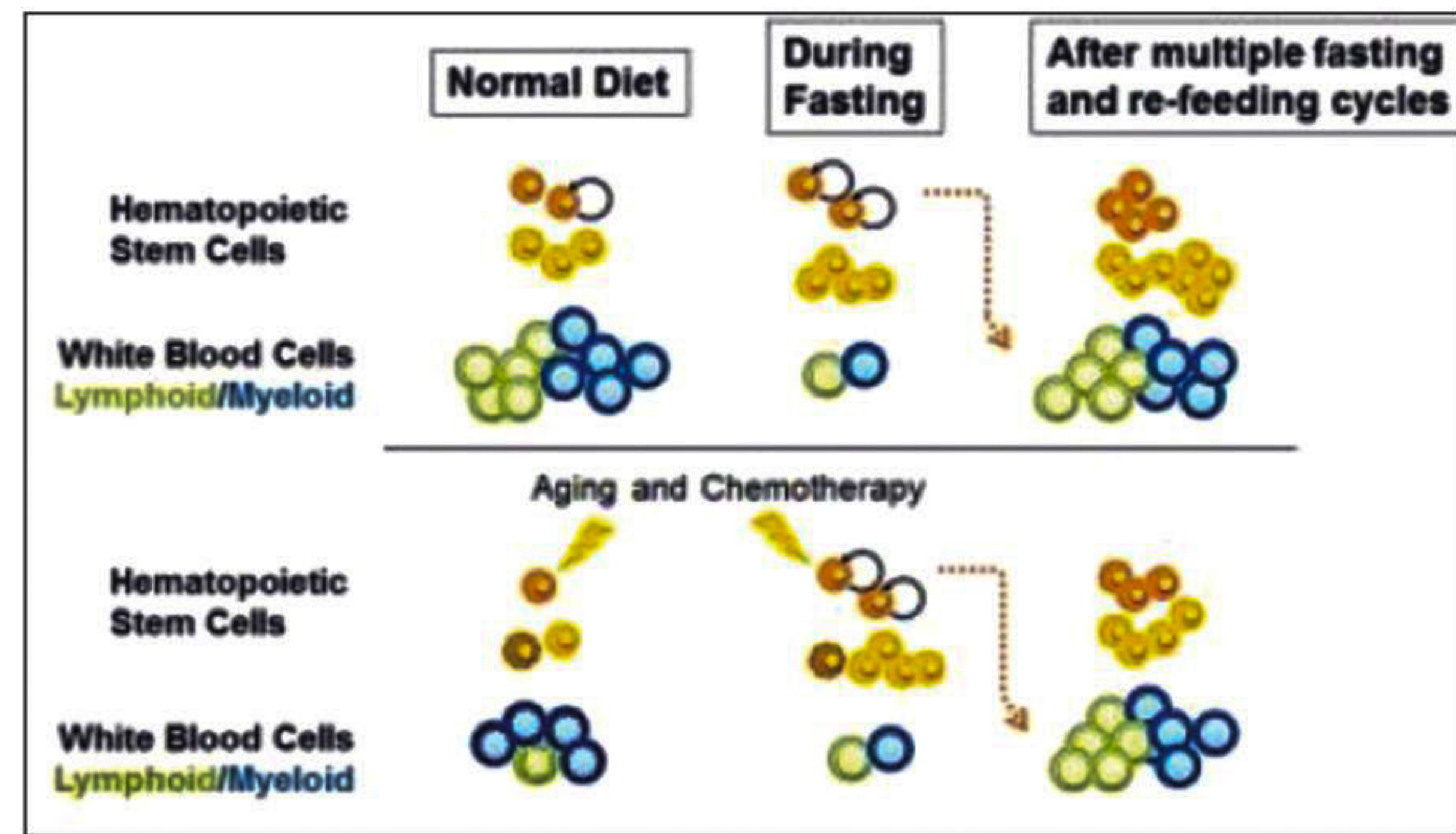


## Benefits of fasting that you didn't know about

In the first evidence of a natural intervention triggering stem cell-based regeneration of an organ or system, a study by the University of Southern shows that "cycles of prolonged fasting not only protect against immune system damage – a major side effect of chemotherapy – but also induce immune system regeneration, shifting stem cells from a dormant state to a state of self-renewal."

The study was published in the Cell Press journal *Cell Stem Cell*.



During fasting the number of hematopoietic stem cells increases but the number of the normally much more abundant white blood cells decreases. In young or healthy mice undergoing multiple fasting/re-feeding cycles, the population of stem cells increases in size although the number of white blood cells remain normal. In mice treated with chemotherapy or in old mice, the cycles of fasting reverse the immunosuppression and immunosenescence, respectively.

PHOTO COURTESY: CELL STEM CELL



In at least one respect, Capuchin monkeys are smarter than humans — they don't assume a higher price tag means better quality.

PHOTO COURTESY: SCIENCE DAILY

## Finding a cure for Ebola

Some 5,000 people have so far died of Ebola and scientists are still looking for a definitive cure. Science Daily reports that "For the first time, anyone with access to a computer or Android-based mobile device can help scientists perform this critical research -- no financial contribution, passport or PhD necessary. In fact, volunteers can be asleep, traveling or on a coffee break when they help researchers search for an Ebola cure."

Beginning December 3, anyone can download a safe and free app that will put their devices to work when the machines



The Scripps Research Institute's Professor Erica Ollmann Saphire is leading the new effort against Ebola.

PHOTO COURTESY: THE SCRIPPS RESEARCH INSTITUTE

would otherwise be idle. With their collective processing power, the computers will form a virtual supercomputer to help The Scripps Research Institute (TSRI) screen millions of chemical compounds to identify new drug leads for treating Ebola. Meanwhile, the devices will remain fully available for normal use by their owners, adds the report.

"This citizen science effort is possible through a partnership with IBM's (NYSE: IBM) World Community Grid, which has been making similar data-driven health and sustainability initiatives possible for 10 years as a free, philanthropic service to the science community," according to Science Daily.

## CAN'T FOOL A MONKEY WITH EXPENSIVE BRAND

A new Yale study finds that, in at least one respect, Capuchin monkeys are smarter than humans—they don't assume a higher price tag means better quality.

People often think that the more they pay the better the quality. For instance, one study showed that people think a wine labeled with an expensive price tag tastes better than the same wine labeled with a cheaper price tag.

The Yale study published in the open-access journal *Frontiers in Psychology* shows that monkeys don't buy that premise.

"Rhia Catapano, a former Yale undergraduate and colleagues taught monkeys to make choices in an experimental market and to buy novel foods at different prices. Control studies showed that monkeys understood the differences in price between the foods. But when the researchers tested whether monkeys preferred the taste of the higher-priced goods, they were surprised to find that the monkeys didn't show the same bias as humans."

## A 500,000-year-old engraving



Detail of the engraving on fossil Pseudodon shell.

According to a research published by an international team of researchers led by Leiden University archaeologist José Joordens, "*Homo erectus* on Java was already using shells of freshwater mussels as tools half a million years ago, and as a 'canvas' for an engraving. The precision with which these early humans worked indicates great dexterity and detailed knowledge of mollusc anatomy."

The research was published on December 3 in *Nature* and offers new insights into the evolution of human behavior: "These early human-like people were very clever about how they opened these large freshwater mussels; they drilled a hole through the shell using a sharp object, possibly a shark's tooth, exactly at the point where the muscle is attached that keeps the shell closed."

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