

NIH eyes \$54 million to map trillions of human cells

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(HealthDay)—The U.S. National Institutes of Health hopes to spend \$54

million over the next four years to map the trillions of cells that compose the adult human body.

Human [cells](#) are organized in tissues that work around the clock to keep us healthy. But understanding how these cells actually do their job is a challenge, scientists say.

Through its Human BioMolecular Atlas Program (HuBMAP), the NIH has issued its first set of research funding awards that will help unravel this mystery, the agency announced Wednesday.

"We're excited for HuBMAP to start its journey to expand our understanding of the principles of [tissue](#) organization," said Dr. James Anderson, NIH director of program coordination, planning and strategic initiatives.

"We expect HuBMAP to provide a vital framework for global efforts to comprehensively understand the human body at a biomolecular level," Anderson said in an agency news release.

Researchers know that cell organization and specialization within tissues influence growth, bodily function and aging. Cells also can indicate the start of disease.

"The ability to detect subtle changes in the activity of individual immune cells and in their interactions with other cells within tissues would help signal the emergence of disease before symptoms are clinically detectable," the NIH stated.

Grants were awarded to 11 U.S. institutions, including California Institute of Technology, Harvard, Stanford and Purdue universities.

Assuming the funds are available, advanced technologies will allow

researchers to evaluate large numbers of cells at the individual cell level, according to the agency.

It's not expected that HuBMAP will map the entire body. But it will provide a foundation for more complete mapping and make data available to researchers for further study, the NIH said.

The anticipated funding will:

- Standardize and validate data on cell organization and variability.
- Develop new tools and techniques to create tissue maps.
- Coordinate activities, manage HuBMAP data and build an atlas of tissue maps.

Support for this high-priority project comes from the NIH Common Fund. The Common Fund tackles challenges in biomedical research that no single NIH institute or center can address on its own.

More information: The U.S. National Institutes of Health has more on [human cells](#).

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