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For Immediate Release

LJI will receive up to $17.6 million to support critical database for biomedical innovation

The Immune Epitope Database will continue to expand, thanks to renewed funding from the NIAID

Highlights:

- Scientists at La Jolla Institute for Immunology (LJI) have led the Immune Epitope Database (IEDB) since 2003.
- The National Institutes of Health's National Institute of Allergy and Infectious Diseases (NIAID) has announced it will fund LJI scientists up to $17.6 million to support the IEDB for the next five years.
- With this renewed funding, LJI scientists will continue to expand the IEDB as a critical resource for immunology and biomedical innovation in the United States.

LA JOLLA, CA—La Jolla Institute for Immunology (LJI) continues to lead the way in immune system data science. Now a renewed contract with the National Institutes of Health's National Institute of Allergy and Infectious Diseases (NIAID) will fund LJI scientists up to $17.6 million over the next five years to support data curation, management, and analysis tools available through the Immune Epitope Database (IEDB).

"The IEDB is used to spearhead the development of technology that continues to put the United States at the forefront of improving patient lives," says LJI Professor Alessandro Sette, Dr.Biol.Sci. "We are honored to have the IEDB funding renewed."

"This funding renewal reflects the continued importance of the IEDB and the hard work that's gone into expanding the scope of the database," says LJI Professor Bjoern Peters, Ph.D.

Since its founding in 2003, the IEDB has made it possible for scientists to examine how the body responds to disease-related "red flags," called epitopes. An epitope is a molecular site on a pathogen

or an infected cell that alerts the immune system to danger. Immune cells recognize epitopes from specific pathogens—and they try to fight back.

Scientists can examine these epitope data to better understand how to develop new therapies or vaccines that target vulnerable epitopes and help the body neutralize infection.

Today, the IEDB contains immune epitope data from more than 7.5 million experiments, which adds up to 2.42 million molecular structures from viruses, bacteria, and even parasites. The IEDB also features data on allergens, such as peanuts, which reveal exactly what the immune system recognizes when an allergic reaction is triggered.

Over time, the IEDB has embraced new data sources. "We've expanded the IEDB to include data on immune cell epitopes and the receptors on immune cells that recognize those epitopes," says Peters. "This kind of characterization wasn't possible back when the IEDB was founded, but it's a critical piece of the puzzle."

The IEDB's toolbox continues to expand as well. The LJI team has developed T cell and B cell prediction tools, which analyze existing data to predict how immune cells will respond to new threats. LJI scientists have also introduced new tools to visualize and compare known epitopes.

Since the beginning, the IEDB has been free and publicly available. The LJI team also gathers user feedback and hosts an IEDB user workshop each year. Thanks to these efforts, the IEDB has become the top database for immune system researchers. The IEDB has been cited in more than 34,000 scientific publications, including patent applications. And each month, the IEDB site receives more than 54,000 site visits.

"The IEDB is a sophisticated resource that catalyzes not just basic research but also applied research that is essential for America's pharma and biotech industries," says Sette. "We look forward to another five years of serving the community and expanding the utility and research of the IEDB."

Learn more:

- IEDB.org
- Sette Laboratory website
- Peters Laboratory website

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