

EXPLORING YOUR UNIVERSE AT UCLA



Building Blocks of Life

Welcome to the Building Blocks of Life! At UCLA, we're passionate about uncovering the mysteries of life at the smallest levels. From glowing proteins to tiny cellular power plants, the wonders of biology are all around us. Today, we're excited to share some remarkable discoveries made right here at UCLA and beyond. Whether you're a curious kid or a budding scientist, join us on this journey to explore the tiny, yet mighty structures that make life possible. Dive in and be amazed by the magic of biology! Here are just some of the things we work on and use right here at UCLA:

GFP (Green Fluorescent Protein): Imagine a tiny, glowing flashlight inside living cells – that's GFP! Found in jellyfish, this protein lights up green under specific lights. Scientists use GFP as a "biological highlighter" to see tiny parts inside cells, like tagging them with a glowing sticker. This cool tool helps them understand how cells work and solve medical mysteries!

LECT2 (Leukocyte Cell-Derived Chemotaxin 2): LECT2 is like a messenger in your body, sending signals to help control inflammation and protect your liver. It's a bit like a traffic cop, directing cells where to go during injury or infection. But sometimes, it changes shape and forms disease-causing fibers called amyloids. Scientists at UCLA study LECT2 to find out what it looks like when it changes shape and how to fix it!

ATP Synthase: This amazing machine in your cells is like a tiny power plant, producing energy for everything you do! It spins like a turbine to make ATP, the energy currency of cells. Thanks to ATP synthase, you can run, think, and even blink. Paul Boyer, a former UCLA professor, won a Nobel Prize for unraveling its secrets!

PDC (Pyruvate Dehydrogenase Complex): PDC is a superstar team of enzymes working together in your cells. They transform pyruvate, a product from sugar, into energy. It's like a relay race, where each enzyme passes the baton to the next, helping to power your body. PDC is also very rigid, like a strong cage. Researchers at UCLA use PDC and other cages to study way smaller things by holding them still!

See the structures!

Now it's your turn to look at the tiny molecules that make life work! Scan one of the QR codes (they are all the same, or go to **bioviewer.net**) with your phone, and you can see the structures yourself. Make sure you keep your camera steady **with the full black square in view**.



If your camera is smudged, it will interfere with the scanning, give it a clean! Loading the structures can take a second, be sure to keep your phone pointed at the code with the whole black square in view (around 6-10 inches away is best) for around 30 seconds if it isn't showing up at first.

If it is slow at first, sometimes adding some of the other structures in view will make it faster.

If you want to print more codes or more copies of this flyer, go to **bioveiwer.net/flyer**



Made by Shervin Nia. Source code available at github.com/shervinnia