



The human body needs cholesterol to function properly, but people can end up with too much of the waxy, fatlike molecule due to genetics or diet—and that can be deadly. One type of cholesterol, called low-density lipoprotein (LDL) cholesterol, can build up on the interior walls of arteries, causing the arteries to narrow. As a result, blood flow can slow down or even stop, sparking a heart attack or stroke. People with high levels of LDL cholesterol have an increased risk of heart disease, the biggest killer of men and women in the United States. But cholesterol levels can be lowered with drugs.

Atorvastatin, sold under the brand name Lipitor, is one of those drugs. In 1985 while at Parke-Davis Pharmaceutical Research, Roth identified a molecule that inhibited HMG CoA reductase, a key enzyme in the metabolic pathway that the body uses to produce cholesterol. Roth and his colleagues then worked to synthesize the molecule and transform it into a viable drug, known as Lipitor. Studies showed that Lipitor could not only lower cholesterol but also delay or even prevent heart attacks. Those results helped make Lipitor the world's top-selling drug, taken by millions of people.