Biotechnologist

Fighting diseases with genes.
A biotechnologist understands biological processes and may use that knowledge to diagnose or treat a disease, develop a new drug, produce a crop plant that has higher yield, or improve a process for making a biofuel such as ethanol. In many cases, biotechnologists use a variety of ways to change the genetic information in DNA. Some look for new, individualized treatments for gene-based diseases of crops or livestock. Others focus on treatments for human diseases such as autism, heart disease, Alzheimer’s, cancer, and autoimmune disorders.

Biotechnologists can be researchers, technicians, or teachers. Universities, companies, nonprofit organizations, and government agencies hire them. With a bachelor’s degree, you might find a job as a technician, biomedical policy analyst, medical affairs specialist, or community college instructor. With a doctorate, you may become a researcher in the biotechnology industry or for the government — or you may become a college professor.

To be a biotechnologist you need a bachelor’s degree in a life science discipline like biology, biochemistry, genetics, or microbiology, with an emphasis on molecular biology. You should take courses in chemistry, biochemistry, mathematics, and computer science. It is also important to get research or analytical experience. For many positions, especially if you want to lead research, you will need a graduate degree and, possibly, post-doctoral experience.

In high school, take college preparatory courses in biology, chemistry, physics, and mathematics. English and communication classes are also important. Participate in science clubs and fairs. If possible, work in a laboratory during the summer.