



# Amgen Biotech Experience

## Scientific Discovery for the Classroom

*"I wouldn't have known about this field, how stimulating and enjoyable it is, without having sampled the life of a scientist through the biotech labs used by the Amgen Biotech Experience."*

—Audrey Izuhara, research technician and former ABE student

### Bringing Science to Life

Science, technology, engineering, and mathematics (STEM) are critical to the worldwide economy and are a core of many industries. Innovative STEM education programs will maximize students' learning of knowledge and skills that can be applied to these fields. The Amgen Biotech Experience (ABE) gives students the opportunity to gain hands-on experience with many of the same techniques that biotechnology researchers use to produce cutting-edge human therapeutics.

ABE is an innovative science education program that introduces students to the importance of scientific discovery through a molecular biology learning experience that links core science concepts to real-world applications. The program provides secondary school teachers with the curriculum, professional development, and lab equipment and supplies to engage students in this rigorous science education program.

## Enriching Students' Lives in the Classroom and Beyond

Through ABE, students cultivate critical skills—including analysis, synthesis, evaluation, and problem-solving—that will serve them throughout their lives, whether they choose to pursue a career in science or work in an entirely different field.

ABE began in Los Angeles, California, 25 years ago through a unique collaboration of Amgen scientists and science educators with the vision to bring the excitement of biotechnology to secondary school students. The program has since developed a robust curriculum and expanded to multiple communities in the United States and Europe. The ABE Program Office based at Education Development Center, Inc. (EDC), a global nonprofit organization with deep experience and expertise in science education, provides leadership and support to strengthen the program worldwide.

To date, the Amgen Foundation has committed nearly \$14 million toward the ABE program, making this opportunity possible for hundreds of thousands of students and thousands of teachers across the United States and Europe.



### Amgen Foundation

The Amgen Foundation seeks to advance excellence in science education to inspire the next generation of innovators, and invest in strengthening communities where Amgen staff members live and work. To date, the Foundation has donated more than \$200 million in grants to local, regional and international nonprofit organizations that impact society in inspiring and innovative ways. In addition to the Amgen Biotech Experience, the Amgen Foundation brings the excitement of discovery to the scientists of tomorrow through several signature programs, including Amgen Scholars and Amgen Teach. For more information, visit [www.AmgenInspires.com](http://www.AmgenInspires.com) and follow us on [www.twitter.com/amgenfoundation](https://www.twitter.com/amgenfoundation).

### EDC

Education Development Center, Inc. (EDC) is a global nonprofit organization headquartered in Waltham, Massachusetts. EDC's mission is to create learning opportunities for people around the world, empowering them to pursue healthier and more productive lives. EDC works with public-sector and private partners, harnessing the power of people and systems to improve education, health promotion and care, workforce preparation, communications technologies, and civic engagement. Learn more at [www.edc.org](http://www.edc.org).

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“We constantly have former students come back to tell us that they chose to major in science, biotech or related fields because of this experience.”

– Jim Mauch, High School Science Teacher

### Quick Facts

- Each year, the program reaches more than 75,000 students and hundreds of teachers
- Program curriculum and tools are offered free of charge
- Reach of the program has been extraordinary, with more than 500,000 students participating to date
- Program participants have shown significant gains in all categories related to science: attitude, interest, confidence and knowledge, as well as interest in pursuing science
- Amgen Foundation has committed nearly \$14 million to date toward the program
- Program is currently available in communities in California, Colorado, Massachusetts, Rhode Island, Washington, Washington D.C., Puerto Rico, England, and the Republic of Ireland.

### Contact Us

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**The Amgen Biotech Experience (ABE) is an innovative science education program that provides research-grade equipment, supplies, curriculum, and professional development to middle and high schools. The program features a hands-on molecular biology curriculum designed to introduce students to the excitement of scientific discovery.**

#### BIOTECHNOLOGY

Biotechnology has brought about the discovery and development of a new generation of human therapeutics. Advancements in both cellular and molecular biology have allowed scientists to identify and develop a host of new medicines for patients with serious illness. Biotechnology provides the tools and techniques for modern pharmaceutical research and drug development, and it is critical that future citizens are knowledgeable about this field.

#### PROGRAM BACKGROUND

The Amgen Biotech Experience (formerly the Amgen-Bruce Wallace Biotechnology Lab Program) began 25 years ago through a unique collaboration of Amgen scientists and educators with a passion for sharing the joy of science and discovery. With the vision to bring the excitement of biotechnology to the fingertips of students, they developed a robust curriculum that has expanded into 11 regions across the U.S. and Europe. In 2013, the Amgen Foundation joined forces with Education Development Center, Inc., a global nonprofit organization with deep experience and expertise in science education, to establish a Program Office to support and strengthen the program worldwide.

#### THE PROGRAM AND CURRICULUM

The ABE program integrates a curriculum that allows students to explore the steps involved in creating biotechnology therapies. Aligned with Next Generation Science Standards and the core biology curriculum, the program supports the larger goal of fostering scientific literacy. In addition to the curriculum and teacher professional development to understand the lab protocols and science, participating teachers receive a loaned kit, free of charge, with research-grade equipment and supplies that allow students to participate in advanced science laboratories.

#### THE LAB AND MATERIALS

The ABE labs parallel some of the important steps taken by the biotechnology industry to develop medicines to treat a variety of diseases. The labs incorporate core technologies used by scientists in the discovery of human therapeutics, so that students will better understand the role of biotechnology and the potential impact of this industry on our future. In addition, by engaging in this program, students may be more motivated to understand the underlying science concepts and perhaps even pursue careers in science.

#### ABOUT THE AMGEN FOUNDATION

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