



# AMGEN Biotech Experience

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## 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, 35 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 Amgen communities worldwide. The ABE Program Office based at Education Development Center (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 \$60+ million toward the ABE program, making this opportunity possible for over 1.1 million students and thousands of teachers worldwide.



### Amgen Foundation

The Amgen Foundation is inspiring the next generation of scientists and future problem solvers—wherever they are. We are engaging students with diverse perspectives and backgrounds to harness the full potential of science to solve tomorrow's toughest challenges. Working in partnership with local and global partners, we are providing best-in-class science education at no cost to students. To date, the Foundation has donated \$475 million to local, regional, and international nonprofit organizations that impact society in inspiring and innovative ways, including \$275+ million to science education. The Amgen Foundation brings the excitement of discovery to the scientists of tomorrow through its signature programs. For more information, visit [www.AmgenFoundation.org](http://www.AmgenFoundation.org).

### EDC

Education Development Center (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).



## QUICK FACTS



# 90,000

In a typical year, ABE reaches approximately **90,000 students** and **1,500 teachers**.



# \$0

The program curriculum, professional development, and all needed materials are provided free of charge.



# 1,100,000+

Globally, the program has impacted **more than 1.1 million students** to date because of the Amgen Foundation's **\$60+ million commitment** to the program.

**“It is cutting edge to be teaching [these labs] in a secondary school, and the students love it. They excel in it, and they are enthusiastic about science, having been able to do [ABE]. You cannot beat the practical experience in my opinion.”**

—ABE Teacher, Ireland

## Biotechnology

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

## The Program and Curriculum

The ABE curriculum allows students to explore the steps involved in creating biotechnology therapies. Aligned with a core biology curriculum, the program supports the larger goal of fostering scientific literacy. In addition to the curriculum and professional development to understand the background science and lab procedures, participating teachers receive, free of charge, loaned research-grade equipment and supplies that allow students to participate in advanced science laboratories. ABE also facilitates connections between students and real-world scientists through the ABE Volunteer Program, which connects Amgen staff with ABE teachers and students through a range of experiences. The program continues to grow, with new program sites joining each year.



## Highest Designation of Effectiveness

ABE was given the highest designation of effectiveness in [WestEd's STEMworks](#) database of programs that meet high standards for quality and impact.



## Interest and Confidence

Independent and rigorous [evaluation data](#) found that students exposed to ABE have significant and substantial learning in biotechnology and increased interest and confidence in doing science and biotechnology.

## The Labs 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 and to incorporate core technologies used by scientists in the discovery of human therapeutics. The labs help students better understand the potential impacts that biotechnology as a science and as an industry may have on their futures, thus inspiring them to pursue careers in the sciences. [LabXchange](#) has created a collection of pathways designed to enhance the ABE lab experience, including modular resources that teachers can mix and match to best support students.

## Teacher Supports

ABE supports teachers around the world through high-quality professional learning experiences, access to a global community of practice, and implementation resources. This support is designed to accomplish the following:

- Increase teacher capacity to implement ABE effectively
- Develop site capacity to support effective ABE implementation within schools
- Develop lifelong engagement and interest in the sciences for ABE students

ABE provides opportunities for teachers to be both learners and leaders within their local programs and internationally.

## Locations

ABE is currently available in the following locations: Australia, Brazil, Canada, France, Germany, Hong Kong SAR, India, Ireland, Italy, Japan, Mexico, Singapore, South Africa, The Netherlands, Türkiye, United Kingdom, and multiple Amgen communities in the United States.

[View the ABE Program Site Map](#) and visit the [ABE Press Kit](#) for media resources. See the following videos for more information:

- [Introduction to ABE](#)
- [Then to Now: Teachers](#)
- [ABE Teacher Testimonials](#)

**AMGEN** Foundation  
[amgenbiotechexperience.com](http://amgenbiotechexperience.com)

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