

MOLECULAR STEM CELL BIOLOGY

Age: 15-18

Grade: 9-12

Duration: Five days; 9.30am-4.00pm

2026 Dates: June 22nd-26th

Location: Torrance, California

\$1,550



Learn to Clone Human Genes and Genetically Engineer Stem Cells Using Modern Molecular Biology Techniques

The Molecular Stem Cell Biology program builds on foundational high school biology, offering hands-on training in ligation-independent gene cloning. Participants engineer and express a fusion protein in human cancer stem cells, gaining advanced molecular biology skills rarely taught at the high school or undergraduate level.

During this five-day course you will:

- Utilize molecular biology software to design a gene amplification, cloning and expression strategy
- Clone a gene from human stem cells using modern methods required throughout the life science industry
- Engineer your cloned gene to create a fluorescent fusion protein
- Express and observe your engineered fusion protein in live human cancer stem cells
- Explore the real-world applications of gene cloning and protein engineering in research and biotech

Course Provides:

- Hands-on classes
- Advanced lab skills
- Biology education
- Real world experience
- Biotech exposure
- Experienced science mentors
- Career education
- College preparation
- Certificate of completion
- Alumni support

Molecular Stem Cell Biology prepares students with advanced skills and knowledge for AP biology, science fair research, college lab classes and workplace internships.