



Mechanisms of Bacterial Resistance to Aminoglycoside Antibiotics

6th Annual Video Challenge for High School Students

Antibiotics are prescribed for treatment of bacterial infections. They work by inhibiting proteins involved in the bacterial life cycle. Aminoglycosides are a class of antibiotics that affect the process of protein synthesis in bacteria. Due to misuse and overuse of antibiotics, bacteria have developed resistance mechanisms that can inactivate them, allowing resistant bacteria to spread from organism to organism, causing one of the greatest public health threats in recent decades.

The Challenge

In this challenge, we ask you to tell a 2 minute long, coherent story that incorporates two components:

1. **Molecular component:** teach the viewers about the molecular changes that occur in bacteria that help them become resistant to aminoglycoside antibiotics. Use the visualizations of relevant PDB structures to help you convey your story.
2. **Public health component:** make the viewers aware of the dangerously high level of antibiotic resistance caused by misuse and overuse of antibiotics. Explain to them, how they might be affected by it, and what they can do to prevent it.

The complete list of requirements for video entries along with learning materials can be found at pdb101.rcsb.org

News and Updates

To sign up for the digital monthly newsletter, email info@rcsb.org with the subject *Video Challenge News*.

Important Dates for the 2019 Video Challenge

Video Submission

January 15 – April 23 at 11:59 pm PST

Judging

April 30 – May 7

Winners Announced

May 14

Awards

All qualified submissions will be eligible to win one or more awards:

Judge's Award

A panel of expert judges select the top three entries using the following criteria:

- Story Telling 20%
- Quality of Science Communication 30%
- Quality of Public Health Message 10%
- Originality and Creativity 20%
- Quality of Production 10%
- Proper Accreditation 10%

Viewer's Choice Award

As voted by the viewers.

The winning entries will be recognized on rcsb.org, and in an upcoming edition of the RCSB PDB Newsletter.