

# Botulinum Toxin: Lethal Weapon or Magic Bullet?

## References and Resources

### Books

- Alberts, B. et al. (2003). *Essential Cell Biology*, Second Edition. Garland Publishing. New York, NY. A comprehensive text for introductory level biology students or non-majors. This text also offers thought questions at the end of each chapter. This text contains a glossary and many ancillary materials.
- Alberts, B. et al. (2002). *Molecular Biology of the Cell*, Fourth Edition. Garland Publishing. New York, NY. A detailed and comprehensive text designed for science majors. This text contains a glossary and many ancillary materials.
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[http://www.wemove.org/pdf/spa\\_MNSc09.pdf](http://www.wemove.org/pdf/spa_MNSc09.pdf)
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- Rensberger, B. (1996). *Life Itself*. New York: Oxford University Press. A "coffee table" book written for the general public and strongly recommended for non-majors. This paperback book, complete with a glossary, does an excellent job of placing intricate cellular processes in context. The book is also an excellent resource for cell biology majors, reminding them to place things in context and to integrate what they have learned.
- Suput, D. and R. Zorac (1994). *Toxins and Exocytosis*. *Annals of the New York Academy of Sciences* 710. This text is a collection of papers presented at the New York Academy of Sciences symposium on the topic.

### Video and Images

#### Aesthetics

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#### Bioterrorism and Immunity

Schindler L, Kerrigan D, Kelly J. Science Behind the News: Understanding the Immune System. This site has a graphics slide show of immune response and vaccine development.  
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The Biological and Toxin Weapons Convention (BTWC) Main Page. This site reviews the 1972 convention which produced a treaty that prohibits the manufacture, stockpiling or dissemination of biological weapons for offensive tactics.  
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DiscoverySchool.com (1997). "Botulinum Toxin" excerpt from the *Understanding Bacteria* video [VHS]. 1/2 video Color 1 cass., 51 min. #717603. Cost \$49.95. A two minute clip

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at the beginning reviews the trajectory of toxin use, from bioweapon to medicinal miracle. The clip is particularly interesting, because students see the personalities of two major scientists of the field, Schantz and Johnson, as they prepare a batch of botulinum toxin.

<http://school.discovery.com/lessonplans/programs/understanding-bacteria/q.html>.

Public Broadcasting Service (2001). "Nova: Bioterror." aired on November 13, 2001. [VHS] \_ video Color 1 cass., 60 min. Cost \$19.95. This video shadows three NYC journalists as they follow bioterrorism stories over the last decade. The video has a companion website that contains interviews with bioterror specialists, journalists, and scientists. The website also has short video clips and tutorials for vaccine development.

<http://www.pbs.org/wgbh/nova/bioterror>.

Public Broadcasting Service (2001). "Nova: Bioterror Companion Website." This video shadows three NYC journalists as they follow bioterrorism stories over the last decade. The video has a companion website that contains interviews with bioterror specialists, journalists, and scientists. The website also has short video clips and tutorials for vaccine development.

<http://www.pbs.org/wgbh/nova/bioterror/>.

For making vaccines, see

<http://www.pbs.org/wgbh/nova/bioterror/vaccines.html#>

For interviews, see

<http://www.pbs.org/wgbh/nova/bioterror/biowarriors.html>

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Bolton, J. R. (2001). *Transcript of Press Briefing by the Honorable John R. Bolton, Under Secretary of State for Arms Control and International Security, United States*. Fifth Review Conference of the Biological Weapons Convention, Palais des Nations, Geneva, Switzerland, U.S. Mission Geneva. This site contains multiple videos of lectures and statements made in reference to the BWTC and the U.S. position.

<http://www.brad.ac.uk/acad/sbtwc/other/bw-info.htm>.

C-Span Senate Appropriations Subcommittee on Bioterrorism (October 23, 2001). This three hour stretch of video allows students to see interactions between scientists, politicians and law enforcement. Senators Tom Harkin and Arlen Specter reprimand the CDC for its handling of the anthrax letters in fall of 2001 and ask some pointed questions about our preparedness for another bioterror attack. Richard Koplan, Director of the CDC presents an epidemiological account of the anthrax attacks and Anthony Fauci, NIH Director, presents his arguments for funding of basic research.

Pearson, G. S., M. R. Dando, et al. (2001). *Review Conference Paper No. 4: 'The US Statement at the Fifth Review Conference: Compounding the Error in Rejecting the Composite Protocol'*. Fifth Review Conference of the Biological Weapons Convention, Palais des Nations, Geneva, Switzerland. This site carries a collection of papers that deconstruct the U.S. position on the Biological and Chemical Weapons Convention Treaty. There are video clips of policy analysts and their views on the subject.

<http://www.brad.ac.uk/acad/sbtwc/>.

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For Graham S. Pearson, David Atwood and Jenni Rissanen, see <http://www.brad.ac.uk/acad/sbtwc/other/bw-info.htm>.

For Jenni Rissanen, which is the the most informative clip, see <http://www.brad.ac.uk/acad/sbtwc/other/video/jenni56k.ram>.

For Graham S. Pearson, see <http://www.brad.ac.uk/acad/sbtwc/other/video/brightep22.ram>

For David Atwood, see <http://www.brad.ac.uk/acad/sbtwc/other/video/davida56k.ram>.

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Terry T. (2000). "Botulinum Toxin Mechanism of Action" as found in Biology 102: Lecture Notes: The Nervous System. University of Connecticut. November 13, 2000. [http://www.microvet.arizona.edu/Courses/MIC420/lecture\\_notes/clostridia/clostridia\\_neurotox/movie/botulinum\\_movie.html](http://www.microvet.arizona.edu/Courses/MIC420/lecture_notes/clostridia/clostridia_neurotox/movie/botulinum_movie.html)

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Public Broadcasting Service.(1993). "Secret of Life, #4: Conquering Cancer." [VHS 740]. 1/2 video Color 1 cass., 60 min. Probes the new understanding of the molecular machinery

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that causes cells to turn cancerous. The search for treatments for some types of cancer, such as inheritable breast cancer, has become a high-stakes hunt for a type of gene that is prone to become malignant. Once identified, such "oncogenes" are expected to point the way to cures.

### Literature (\*\* articles that are particularly useful for students)

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