

**Barras, biological
weapons for the use
of bioterrorism.**



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Barras, V., and G. Greub. "History of Biological Warfare and Bioterrorism." *Clinical Microbiology and Infection*, vol.

20, no. 6, 2014, pp. 497-502., doi: 10.1111/1469-0691.12706. First, the authors give a brief history of biological warfare from ancient times to the modern day. Biological warfare can be traced to ancient races, such as the Hittites and the Scythians, but these accounts are not well-documented and are subject to skepticism.

Biological warfare became a major issue following the founding of microbiology by scientists such as Louis Pasteur and Robert Koch. During World War I, nations such as Germany and France developed methods for biological warfare including the infection of animal feed. Consequently, the Geneva Protocol was ratified in 1925, prohibiting the use of biological weapons but not research and production for defense purposes. Thus, during World War II and onward, many of the countries that ratified the Geneva Protocol still researched and stored biological weapons. In 1972, a new Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, was signed that prohibited the possession of biological agents "except for peaceful purposes", prohibited the development of methods to spread biological agents, and ordered the "destruction of existing stocks". Nevertheless, non state-sponsored organizations, continued to develop biological weapons for the use of bioterrorism. Recently, bioterrorism occurred in the aftermath of the 9/11 attacks when 22 people were infected with anthrax from letters that contained *Bacillus Anthracis*.

The article concludes that the defense against biological weapons and bioterror rests in the the formation of cultural norms that would prohibit the development and use of such weapons. The article was published by the journal, *European Society of Clinical Microbiology and Infectious Diseases*. V. Barras is a member of the Institute of the History of Medicine and Public Health at the University of Lausanne and the University Hospital Centre, Lausanne.

G. Greub is a member of the Institute of Microbiology at the University of Lausanne and also works at the University Hospital Centre, Lausanne. In my background paragraphs, I will use the information to summarize the history of biological warfare, biological weapons, and bioterrorism. Hayden, Erika Check. "The price of protection since the anthrax attacks in 2001, some \$60 billion has been spent on biodefence in the United States.

But the money has not bought quite what was hoped." *Nature*, vol. 477, no. 7363, 2011, p. 150+. Academic OneFile, http://link.galegroup.com/apps/doc/A267708090/AONE?u=mlin_m_wil&sid=AONE&d=4ddd08aa.

Accessed 7 Jan. 2018. In Erika Check Hayden's article, the cost for a biodefense system is analyzed.

The article begins with the story of Lance Corporal Corey Belken, a 20-year-old member of the US Marine Corps. Two weeks after being vaccinated to prevent an attack from a lethal virus, Belken was diagnosed with leukaemia and had to undergo chemotherapy, weakening his immune system and leaving him vulnerable to the vaccinia virus from the vaccination. After <https://assignbuster.com/barras-biological-weapons-for-the-use-of-bioterrorism/>

three smallpox drugs, and the amputation of his legs below the knees, Belken finally recovered. The article then gives a brief history of US biodefense from 2001 to the Belken incident on January 2009. Shortly after the 9/11 attacks, anthrax spores had been sent to media outlets and politicians, killing five people. In response, the US government began intensively researching biological threats at the National Institutes of Health, or NIH; created the Biomedical Advanced Research and Development Authority, or BARDA; and began a \$5.

6-billion program to purchase drugs and vaccines, known as BioShield. According to the Center for Biosecurity of the University of Pittsburgh Medical Center, as of 2011, the federal government spent \$60 billion on biological defense efforts. However, many critics accuse the program of being weakened by a lack of strategic thinking and coordination between the federal agencies involved. However, some, like David Relman, a microbiologist at Stanford University in California who is deeply involved in biodefense research and policy, believe that in time, these efforts will be rewarded. The article then explains that many of the accusations for mistakes were made towards the US National Institute of Allergy and Infectious Diseases, or NIAID. It then goes on to describe the origins of two of the drugs used on Belkin, CMX001 and STS-246. The article asserts that biodefense research has been ineffective because the majority of the money didn't even go to biodefense research.

The well-researched article was written by Erika Check Hayden, a senior reporter. She quotes reputable sources including: Kathleen Sebelius, the then-US Secretary of Health and Human Services; Andrew Pavia, infectious-
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disease doctor at the University of Utah and former member of the National Biodefense Science Board; and Randall Larsen, a member of the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism. I will use this article as a potential counterargument to the necessity for bioweapon preparedness. I will then state that we must reform the programs in order to truly find a way to combat bioterror.

Also, I will also describe the potential medicines, CMX001 and STS-246, as possible methods to combat biological attacks.