



Novel Subtype of Botulinum Toxin for Prolonged Effectiveness

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WARF: P09050US02

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing botulinum neurotoxin subtype A5, which may be useful for patients who have become resistant to treatment.

Overview

Clostridium botulinum produces botulinum neurotoxin (BoNT), which can cause debilitating disease but also is used to treat disorders like chronic headache, spastic muscles and strabismus.

Several different types of the toxin exist. Commercially available pharmaceuticals and the cosmetic agent BOTOX are derived from the A1 subtype. One problem is that patients develop resistance after repeated use. For these patients, it would be highly advantageous to find other subtypes not neutralized by their immune systems.

The Invention

UW–Madison researchers have discovered and purified a novel subtype of botulinum neurotoxin, BoNT/A5. The new subtype was found in a strain of the bacteria (A661222) maintained in the researchers' lab collection. The A5 sequence is very similar to A1; most of the differences are in areas known to interact with neutralizing antibodies. This means it may be effective even when patients have developed resistance to BOTOX and other treatments.

Applications

- Purified botulinum neurotoxin for research, therapy and cosmetics
- Likely used as a substitute for BoNT/A1

Key Benefits

- Altered immune response
- Relatively easy to purify

Stage of Development

The researchers have purified formulations.

Additional Information

For More Information About the Inventors

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- [Eric Johnson](#)

Related Technologies

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- [WARF reference number P06269US describes subtypes BoNT/A3, BoNT/A4 and BoNT/B for pharmaceutical use.](#)

Tech Fields

- [Therapeutics & Vaccines : Musculoskeletal](#)

For current licensing status, please contact Andy DeTienne at adetienne@warf.org or 608-960-9857

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