

ABSTRACT

Provided is a preparation method for recombinant botulinum toxin type A (BoNT/A), the method comprising: designing a BoNT/A amino acid sequence in a P0DP10 protein database; by using a homologous recombination method, inserting an His tag and an SUMO tag sequence into the N terminal of the BoNT/A amino acid sequence; and then performing cleavage between GG-M by means of a SUMO tag protease. A result shows that no amino acid residue of any tag and the SUMO sequence is present, so that the safety is remarkably improved. Comparative experiments and animal experiments show that the recombinant botulinum toxin type A polypeptide which is prepared, purified and activated on the basis of a bacterium body centrifugal supernatant has higher virulence, so that the effective dose during practical use is reduced, thus remarkably reducing side effects and stimulation and achieving higher safety.

Fig. 10