# Supplementary Materials: Immunogenicity of A Bivalent Non-Purified Recombinant Vaccine Against Botulism in Cattle

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**Table S1.** Titers of neutralizing antibodies against BoNT serotypes C and D at days 0, 56, 120, and 180 post vaccination for individual animals vaccinated with Commercial vaccine (CV) and different concentrations of the recombinant vaccine (100, 200 and 400 μg). These values were obtained with the serum neutralization bioassay in mice.

| | | Anti-BoNT/C (IU/mL) | | | | Anti-BoNT/D (IU/mL) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Day 0 | Day 56 | Day 120 | Day 180 | Day 0 | Day 56 | Day 120 | Day 180 |
| 100 μg Hc-BoNT/C and D | Animal 1 | ND | ND[1] | ND | ND | ND | 2 | 2 | ND |
| | Animal 2 | ND | 5 | 5 | ND | ND | ND | ND | ND |
| | Animal 3 | ND | ND | ND | ND | ND | 2 | 2 | ND |
| | Animal 4 | ND | ND | ND | ND | ND | ND | ND | ND |
| | Animal 5 | ND | ND | ND | ND | ND | ND | ND | ND |
| | Animal 6 | ND | 5 | 5 | ND | ND | 4 | 4 | ND |
| | Animal 7 | ND | ND | ND | ND | ND | 2 | 2 | ND |
| | Animal 8 | ND | ND | ND | ND | ND | 2 | 2 | ND |
| 200 μg Hc-BoNT/C and D | Animal 1 | ND | 8 | ND | ND | ND | 10 | 4 | ND |
| | Animal 2 | ND | 10 | 5 | ND | ND | 10 | 4 | ND |
| | Animal 3 | ND | 8 | ND | ND | ND | 10 | 4 | ND |
| | Animal 4 | ND | 10 | 5 | 5 | ND | 10 | 4 | 2 |
| | Animal 5 | ND | 10 | 5 | ND | ND | 12 | 4 | ND |
| | Animal 6 | ND | 10 | 5 | ND | ND | 10 | 4 | ND |
| | Animal 7 | ND | 8 | ND | ND | ND | 12 | 4 | ND |
| | Animal 8 | ND | 5 | ND | ND | ND | 8 | 2 | ND |
| 400 μg Hc-BoNT/C and D | Animal 1 | ND | 10 | 5 | ND | ND | 15 | 4 | ND |
| | Animal 2 | ND | 10 | 5 | ND | ND | 15 | 4 | ND |
| | Animal 3 | ND | 12 | 5 | ND | ND | 15 | 4 | ND |
| | Animal 4 | ND | 12 | 5 | 5 | ND | 15 | 4 | 2 |
| | Animal 5 | ND | 12 | 5 | ND | ND | 15 | 4 | ND |
| | Animal 6 | ND | 12 | 5 | ND | ND | 15 | 4 | 2 |
| | Animal 7 | ND | 10 | 5 | ND | ND | 10 | 4 | 2 |
| | Animal 8 | ND | 10 | 5 | 5 | ND | 10 | 4 | ND |
| Commercial vaccine | Animal 1 | ND | 5 | ND | ND | ND | 3 | ND | ND |
| | Animal 2 | ND | 5 | ND | ND | ND | 2 | ND | ND |
| | Animal 3 | ND | ND | ND | ND | ND | ND | ND | ND |
| | Animal 4 | ND | 6 | 5 | ND | ND | 5 | 2 | ND |
| | Animal 5 | ND | 5 | ND | ND | ND | ND | ND | ND |
| | Animal 6 | ND | 6 | 5 | ND | ND | 4 | ND | ND |
| | Animal 7 | ND | 5 | ND | ND | ND | 2 | 2 | ND |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Animal 8 | ND | ND | ND | ND | ND | 5 | ND | ND |
| Negative control | Animal 1 | ND | ND | ND | ND | ND | ND | ND | ND |
| | Animal 2 | ND | ND | ND | ND | ND | ND | ND | ND |
| | Animal 3 | ND | ND | ND | ND | ND | ND | ND | ND |
| | Animal 4 | ND | ND | ND | ND | ND | ND | ND | ND |
| | Animal 5 | ND | ND | ND | ND | ND | ND | ND | ND |
| | Animal 6 | ND | ND | ND | ND | ND | ND | ND | ND |
| | Animal 7 | ND | ND | ND | ND | ND | ND | ND | ND |
| | Animal 8 | ND | ND | ND | ND | ND | ND | ND | ND |

[1] ND, non detectable levels of neutralizing antibodies.