

Summary of Studies Supporting USDA Product Licensure

| Establishment Name | Arko Laboratories Ltd. |
|---|---|
| USDA Vet Biologics Establishment Number | 337 |
| Product Code | 10C5.11 |
| True Name | Avian Paramyxovirus Vaccine, Type 1, Killed Virus |
| Tradename(s) / Distributor or Subsidiary (if different from manufacturer) | |
| Date of Compilation Summary | January 25, 2018 |

Disclaimer: Do not use the following studies to compare one product to another. Slight differences in study design and execution can render the comparisons meaningless.

337 10C5.11 Page 1 of 2

| Study Type | Safety | | | | | | |
|------------------------------|--|-----------------------------|---------|---------|--|--|--|
| Pertaining to | all | | | | | | |
| Study Purpose | Demonstrate safety of product under typical use conditions. | | | | | | |
| Product Administration | 2 doses administered at 2 week intervals by subcutaneous | | | | | | |
| | administration. | | | | | | |
| Study Animals | 60 pigeons, ranging from 5 weeks to 10 years old. | | | | | | |
| Challenge Description | NA | | | | | | |
| Interval observed after | Birds were observed during and after each vaccination and daily | | | | | | |
| challenge | through 7 days after the second vaccination. | | | | | | |
| Results | | | | | | | |
| | Frequenc | Frequency of Adverse Events | | | | | |
| | | | | | | | |
| | | Site #1 | Site #2 | Site #3 | | | |
| | | | | | | | |
| | | N=20 | N=20 | N=20 | | | |
| | Injection Site Swelling | 0 | 0 | 0 | | | |
| | Respiratory Distress | 0 | 0 | 0 | | | |
| | Pain on Injection | 0 | 0 | 0 | | | |
| | No Adverse Events | 20 | 20 | 20 | | | |
| | Due to an exceptional need for this product in the field and a history of the organism being used in autogenous products, testing in 60 pigeons was deemed acceptable to support conditional licensure. Additional data will be evaluated prior to issuing a full license. | | | | | | |
| USDA Approval Date | December 20, 2017 | | | | | | |

337 10C5.11 Page 2 of 2