**Lack of Harmful Effects of Rabbit Pheromone on Dogs**

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**Executive Summary**

 Pheromones and Interomones have clear applications in domestic dogs. Pheromones and Interomones may correct or prevent various behaviors such aggression, jumping up, barking, or leash pulling. The rabbit pheromone is the molecule *trans*-2-methyl-2-butenal (2M2B).  2M2B is reported to be a pheromone in European rabbits; it attracts the pups to the mother’s nipple for breast-feeding (Schaal et al., 2003; Coureaud et al., 2003). The Texas Tech Laboratory of Animal Behavior, Physiology and Welfare has demonstrated that 2M2B can improve dog heart rate and behavior especially in stressful situation. .

 We generated ten reports in which we exposed 110 dogs to Rabbit pheromone in various forms (treats, ointment, collar, spray, tablets; see Table 1). In no case did we find any death, injury, rash, or any animal health concern. Animal care staff and scientists observed dogs each day, and the veterinary staff observed animals each week. During these observations by at least 3 people, no harmful, stressful, or otherwise negative effects on the dogs were observed.

 We conclude that 2M2B does not cause any harmful effects when applied to the dogs. Thus, 2M2B is safe for use in dogs.

**Table 1**. Study number, names of studies and the number of dogs used per study.

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| **Study ID #** | **Name of studies** | **Number of dogs used** |
| R-2015-13 | Pheromone delivery by treats: heart rate and behavior during simulated thunderstorm | **7** |
| R-2015-14 | Effects of Interomone collars on heart rate and behavior of domestic dogs during simulated thunderstorm | 8 |
| R-2015-15 | Effects of Interomone ointments on heart rate and behavior of domestic dogs during simulated thunderstorm | 19 |
| R-2015-16 | Effects of Interomone sprays on heart rate and behavior during simulated thunderstorm: Blind ointment study | 4 |
| R-2015-17 | Treats, tabs, and ointments: Effects of different pheromone delivery methods on heart rate and behavior during simulated thunderstorm | 8 |
| R-2015-18 | Effects of Rabbit pheromone on body weight, heart rate, and cortisol during ground transport in dogs | 32 |
| R-2016-19 | Effects of Rabbit maternal pheromone collars on heart rate of domestic dogs during ground transport | 8 |
| R-2015-20 | Effects of Rabbit pheromone collars on behavior and physiology of domestic dogs during transport and introduction to a novel environment | 8 |
| R-2015-21 | Effects on Interomone collars on heart rate and behavior of domestic dogs during simulated thunderstorm and fireworks | 8 |
| R-2016-22 | Effects of Interomone ointments on heart rate and behavior of domestic dogs during simulated fireworks | 8 |
|  | **Total** | **110** |

**References**

1. Coureaud G, Langlois D, Sicard G, Schaal B. Newborn rabbit responsiveness to the mammary pheromone is concentration dependent. Chem Senses. 2003; 29: 341-350.
2. ***S***chaal, B., Coureaud, G., Langlois, D., Ginies, C., Semon, E. and Perrier, G. Chemical and behavioural characterization of the rabbit mammary pheromone. *Nature*. 2003; 424: 68-72.
3. The Dog Pheromone Site. Texas Tech University Laboratory of Animal Behavior, Physiology, and Welfare.

http://www.depts.ttu.edu/animalwelfare/Research/Pheromones/dog.php