



Chemyong Jay Ko, PhD

Dr. Ko is a Professor in the College of Veterinary Medicine at the University of Illinois at Urbana-Champaign. He earned his PhD from Seoul National University and completed his postdoctoral training at the University of Kentucky. Dr. Ko leads an active research program on Reproductive Endocrinology and serves as a standing member of the NIH Study Section on Reproductive Biology. In 2016, Dr. Ko founded Epivara at the University of Illinois' Research Park. He currently serves as the CEO and Chairman of the Board of Epivara Inc., where he applies his 20 years of expertise in reproductive endocrinology to advancing non-surgical sterilization technologies.



Sandra Soto Heras, PhD

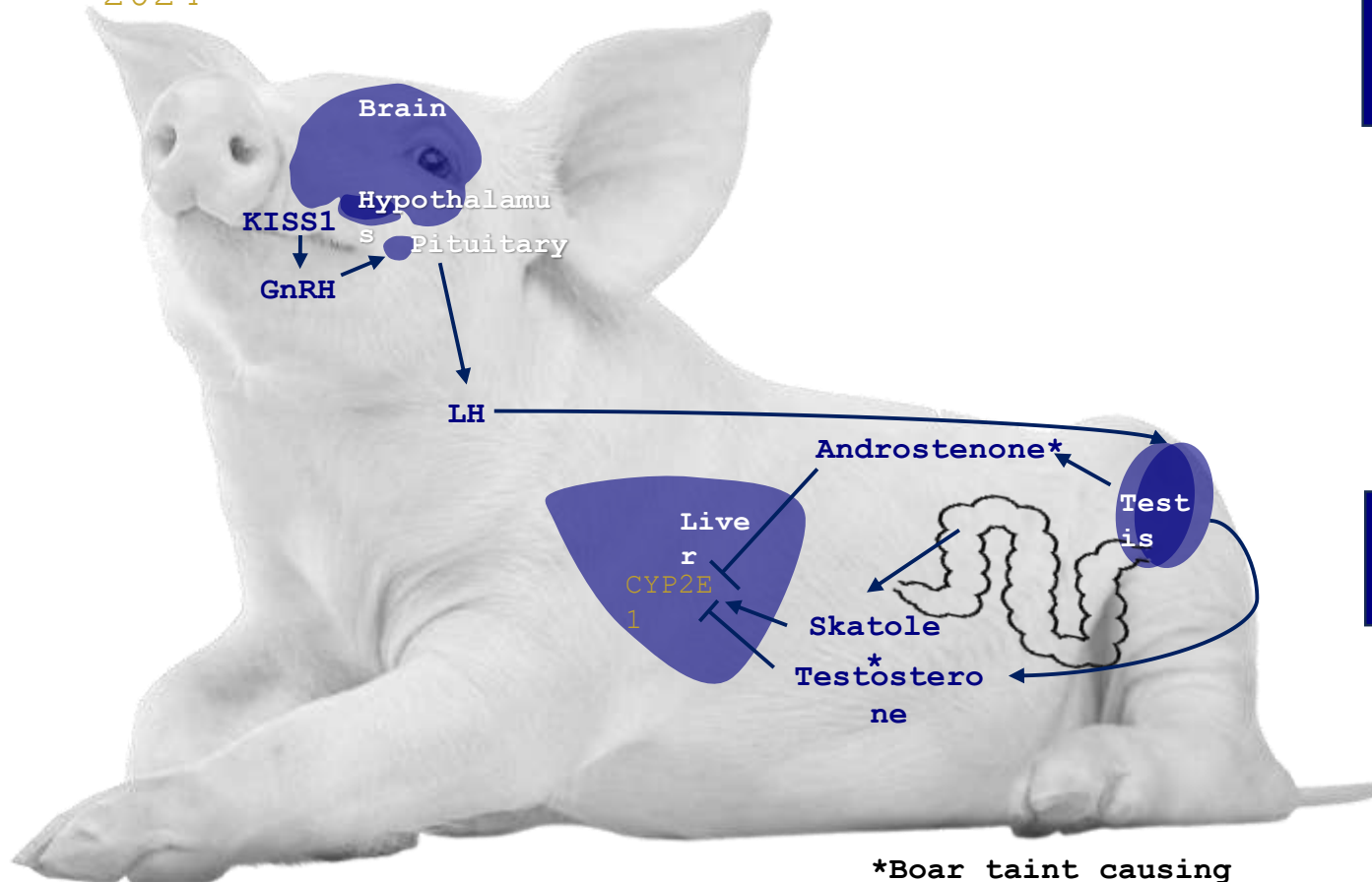
Sandra is a Senior Scientist at Epivara Inc., where she is leading the development of non-surgical sterilization technology for cats and dogs. She earned her DVM and PhD from the Universitat Autònoma de Barcelona and completed her postdoctoral training at the University of Illinois at Urbana-Champaign. Over the past ten years, her research has focused on understanding male and female fertility at the cellular level. She aims to leverage her background in reproductive biology to develop solutions that enhance the welfare of companion and farm animals.

Non-Surgical Castration of Production Animals by Suppressing the Prepubertal LH Surge

Sandra Soto Heras, PhD; Jay

Ko, PhD

October 14th,
2024



*Boar taint causing



Basis of Reproduction

- KISS1 stimulates the release of GnRH, which triggers the secretion of FSH and LH.
- FSH and LH stimulate the development of the testis and the production of androgens.
- Androstenone and skatole are responsible for boar taint.



Target of Novel Methods

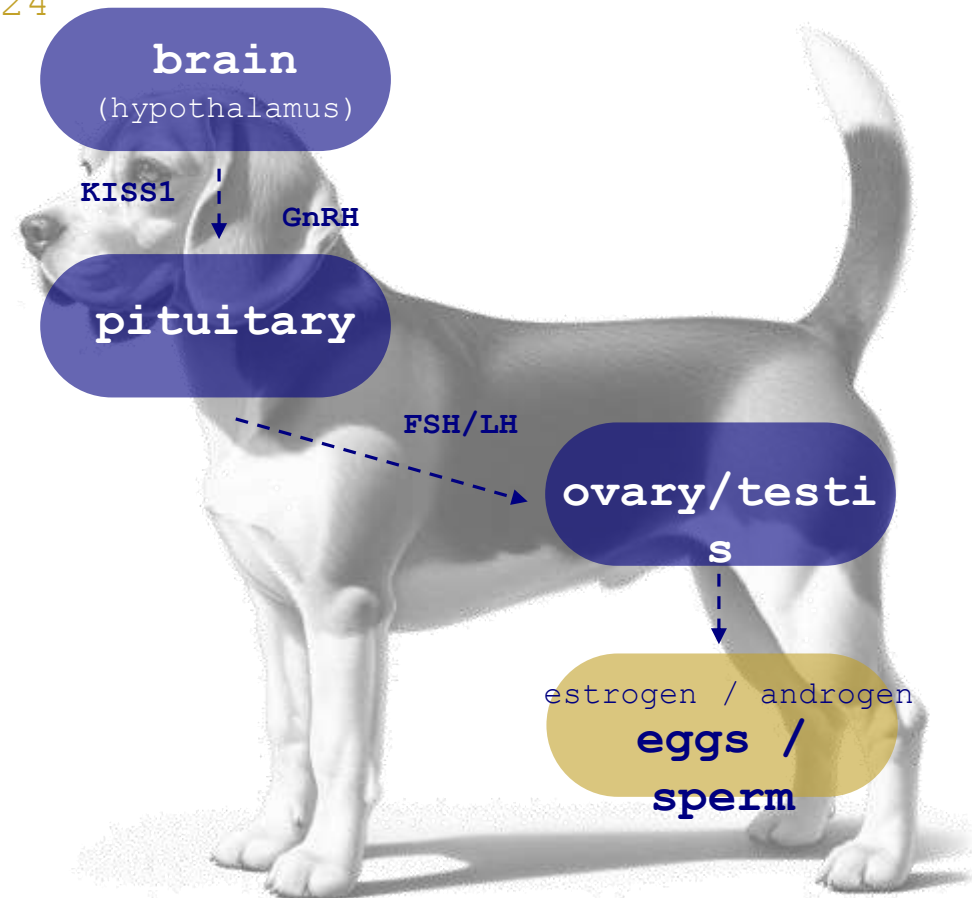
- The suppression of the prepubertal LH surge inhibits testis development.
- Testis stay immature, with decreased steroidogenic production, leading to no boar taint.

Novel Methods for Non-Surgical Inhibition of Reproduction in Male and Female Animals

Jay Ko, PhD; Sandra Soto

Heras, PhD

October 15th,
2024



Fundamentals of Reproduction

- o KISS1 is a master reproductive hormone secreted by neurons in the hypothalamus.
- o KISS1 stimulates the release of GnRH, which triggers the secretion of FSH and LH.
- o FSH and LH regulate the production of sex steroids and germ cells.



Target of Novel Methods

- o The inactivation of KISS1 neurons inhibits the development of the reproductive axis.
- o Without KISS1, no GnRH is secreted, leading to a lack of sex steroids and no sperm/egg production in the gonads.