

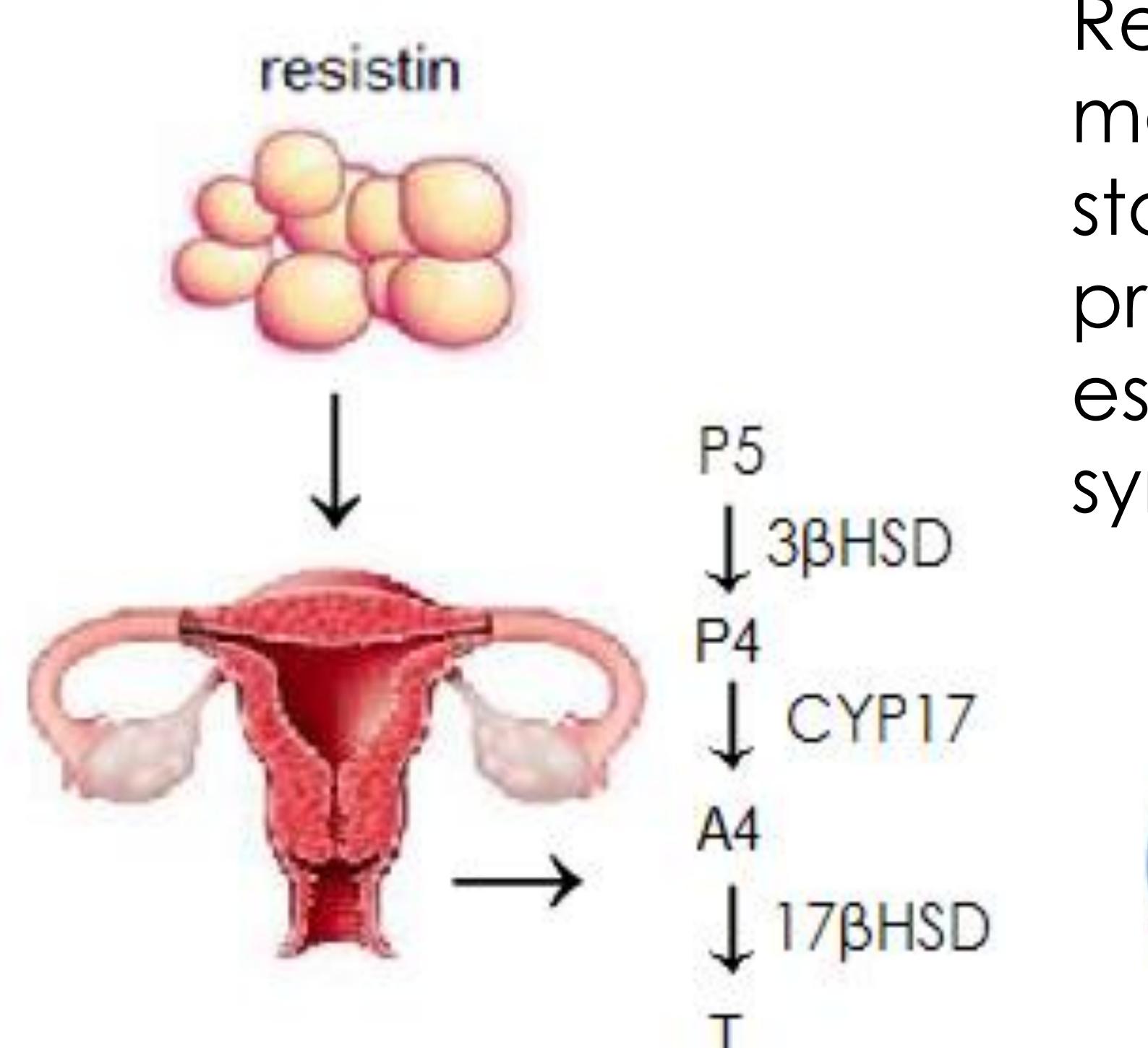
# Effect of resistin on LH and FSH stimulated steroidogenesis in porcine ovarian follicles during estrous cycle.



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## INTRODUCTION:



**Resistin** is a recently discovered 12.5 kDa cysteine-rich secreted polypeptide first reported from rodent adipocytes and plays important role in the development of insulin resistance and obesity. Recently, many investigators have linked resistin to reproductive function.

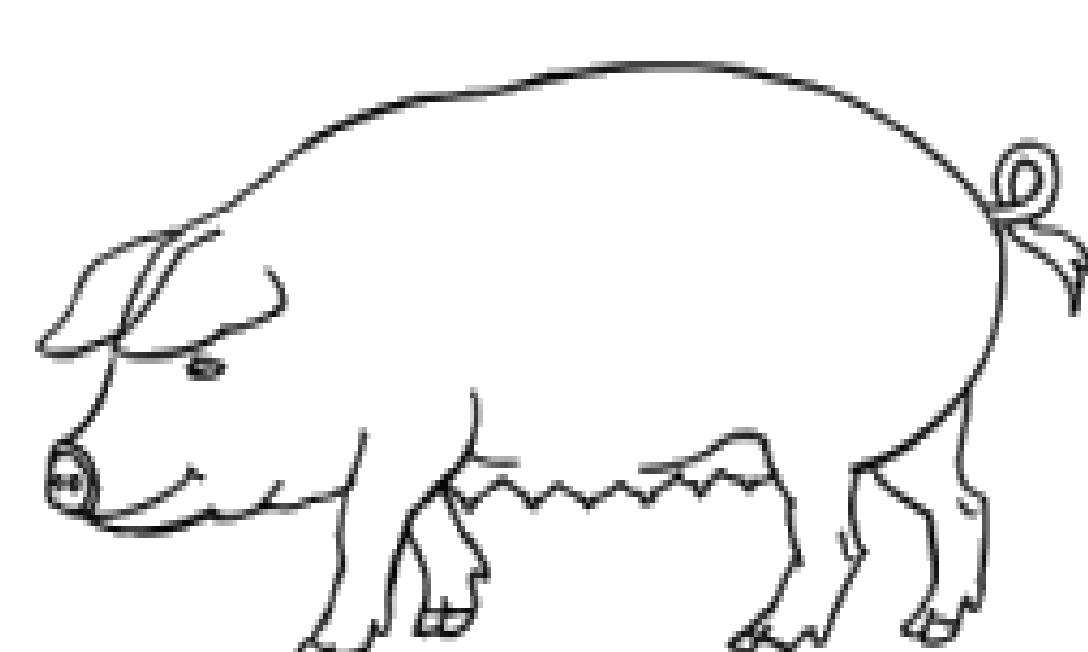
Resistin expression was observed in bovine and rat ovaries, and showed that resistin modulates granulosa cells function such as steroidogenesis and proliferation, in basal state or in response to IGF-I *in vitro*. Our previously study showed that resistin was present in porcine small, medium and large follicles in prepubertal and normal estrous cycling animals. Additionally, resistin could modulate ovarian steroid synthesis by increasing androgen production.

### The aim of the study was analyze:

Effect of resistin on LH and FSH stimulated:

- 1). steroid secretion: P4 – progesterone, A4 – androstendione and T – testosterone.
- 2). steroid enzymes protein expression: 3βHSD, CYP17 and 17βHSD.

## METHODS:



OVARIAN FOLLICLES  
at days 10-12 (4-6 mm) of estrus cycle

*In vitro* organ culture :



1. Medium ovarian follicles were cultured in the presence or absence of resistin (at doses 0.1, 1 and 10) and LH (100 ng/ml) or FSH (100 ng/ml) in M199 medium.
2. After 24 h, conditioned culture media were collected for steroid hormone secretion (P4, A4, and T) by EIA but ovarian follicles were homogenized to measurement expression of steroid enzymes (3β-HSD, CYP17, 17β-HSD) by Western immunoblot.

## RESULTS:

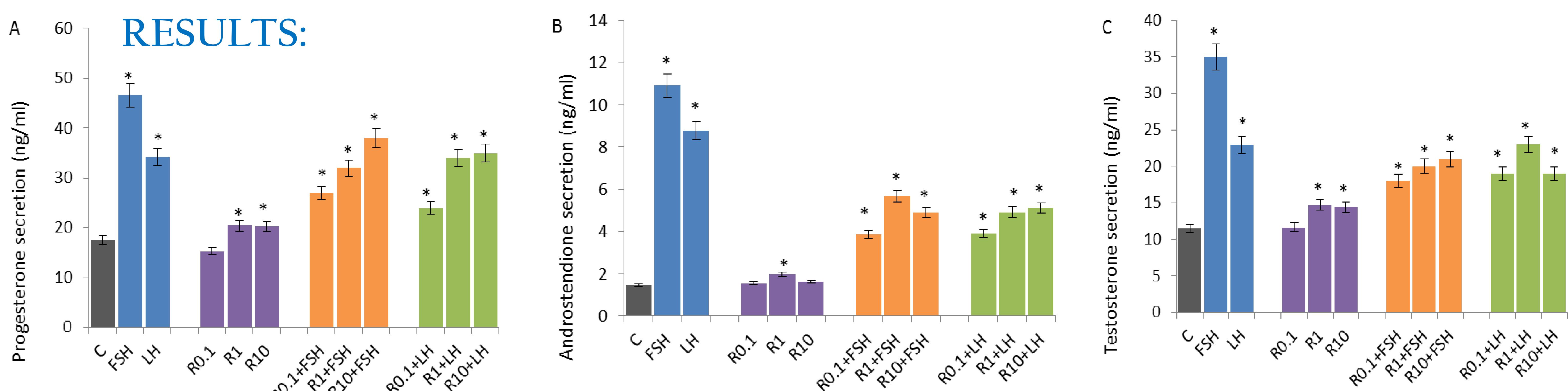
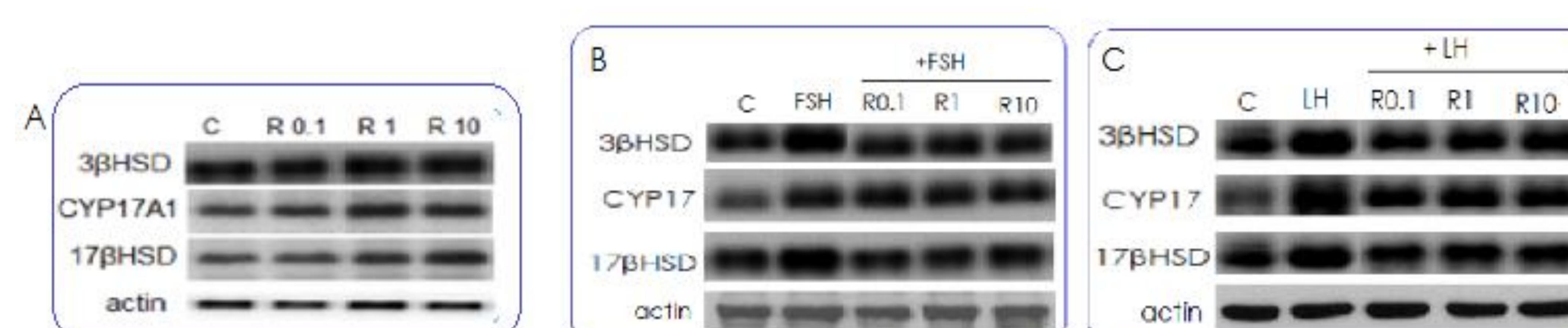


Fig. 2 Effect of resistin on stimulated FSH and LH steroid secretion: A). P4, B). A4 and C). T.



We observed that resistin increased stimulated LH and FSH P4, A4 and T secretion by up-regulating the steady state levels of steroid enzymes expression 3βHSD, CYP17A1, and 17βHSD in ovarian follicles.

Fig. 3 Effect of resistin (A) on stimulated FSH (B) and LH (C) steroid enzymes protein expression: 3β-HSD, CYP17, 17β-HSD.

**CONCLUSION:** direct effects of resistin on steroidogenesis suggest that resistin is a new regulator of porcine ovary function in animals during the estrous cycle.