

*Journal of Reproduction and Fertility* (1995) **103** 131-135

© 1995 Society for Reproduction and Fertility

DOI: 10.1530/jrf.0.1030131

## Articles

# Immunization of sheep against GnRH early in life: effects on reproductive function and hormones in ewes

**BW Brown, PE Mattner, PA Carroll, RM Hoskinson, and RD Rigby**

Groups of Merino ewe lambs were immunized against GnRH either soon after birth (prepubertal) or around puberty (peripubertal) with a prototype commercial preparation and were studied over the following 2 years to determine the long-term effects on reproductive development, function and hormone concentrations. At least 60% of the GnRH-immunized ewes in either treatment group did not experience oestrus and possessed small uteri and small ovaries that lacked follicular development. Growth rates of immunized and control ewes were similar throughout the study. Compared with the increase in plasma LH and FSH concentrations with age in control ewes, the concentrations of these hormones in immunized animals were lower and remained relatively constant from 46 to 90 weeks of age. Plasma FSH concentrations were particularly suppressed in immunized ewes and were significantly ( $P < 0.05$ ) lower than the control values of 61 and 90 weeks of age. LH release after injection of 1 microgram GnRH at 90 weeks of age was either absent or suppressed in immunized ewes compared with controls. The findings suggest that the lack of GnRH stimulation and consequent deprivation of gonadotrophins, early in the life of ewes, may result in some degree of permanent impairment of hypothalamic and/or pituitary function.

### This Article

- ▶ [Alert me when this article is cited](#)
- ▶ [Alert me if a correction is posted](#)

### Services

- ▶ [Similar articles in this journal](#)
- ▶ [Similar articles in PubMed](#)
- ▶ [Alert me to new issues of the journal](#)
- ▶ [Download to citation manager](#)

### PubMed

- ▶ [PubMed Citation](#)
- ▶ [Articles by Brown, B.](#)
- ▶ [Articles by Rigby, R.](#)