Hyperplasia of gonadotropin-secreting cells in FSH receptor knock-out male mice

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Folliclestimulating hormone receptor knock-out (FSH R KO) mice show lack of physiological feed-backs, which triggers histological changes in the pituitary. The disturbed physiological feed-backs may involve the inhibin/activin system [1] and other antigonadotropic substances, as for example the pineal one [2]. Adult male mice exhibit pituitary gonadotropin (LH) cells hyperplasia (fig. 1A) as compared to the normal controls (fig. 1B).

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Fig. 1A Photomicrograph of anterior pituitary specimens from folliculostimulating hormone receptor knock-out (FSH R KO) male mice, 8 weeks old showing hyperplasia of pituitary gonadotropin (LH)-secreting cells (arrows). Nuclei stained with propidium iodide (PI) (Vectashield mounting medium with PI, Vector Laboratories, Burlinghame).

Fig. 1B Photomicrograph of anterior pituitary specimens from control mice, 8 weeks old. (p - posterior pituitary). Luteinizing hormone (LH) immunofluorescence using anti-rat beta LH NHPP antibody, 1:1000 and FITC anti-rabbit secondary antibody 1:300 (Vector Laboratories, Burlinghame). Nuclei stained with propidium iodide (PI) (Vectashield mounting medium with PI, Vector Laboratories, Burlinghame).