

3) PHYSIOLOGY AND BEHAVIOUR

Isolation of a sheep placental hormone inducing lactation and growth

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An ovine lactogenic hormone (Ovine Placental Lactogen: OPL; Ovine Chorionic Somatomamotrophin: OCS) was isolated from sheep placentae at 100-120 days of pregnancy. Its main biophysical, biochemical and immunological properties were determined, and the placental localization of its cellular synthesis shown.

The patterns of prolactin-like and growth hormone-like activities were measured in pregnant sheep. OCS produced normal mammary growth without prolactin. With cortisol, OCS induced milk secretion in pregnant sheep without prolactin. OCS lactogenic activity was demonstrated *in vitro* in cultures of mammary gland.

Growth activity of OCS was shown by injections of OCS in hypophysectomized rats. Moreover, this hormone is bound to the same cellular receptors as the ovine growth hormone.

The high levels of OCS in foetal blood suggest the important role of this placental hormone in foetal growth.

Effect of exogenous 17- β oestradiol supply at the end of gestation on ewe milk yieldC. DELOUIS ⁽¹⁾, M. TERQUI ⁽²⁾, J. PONT ⁽¹⁾, P. PETREQUIN ⁽³⁾,
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In the ewe, oestrogens, among other hormones, control the development of the mammary gland during pregnancy and the appearance of copious milk secretion at the time of parturition. Single or repeated injections of 17- β oestradiol after day 140 of pregnancy, inducing parturition, may affect milk yields during machine milking or nursing.

One single injection of oestradiol benzoate (15 mg) on day 144 produced.

1) a significant increase ($P < 0.05$) of milk yields during machine milking for 28 days and of weight gain (10-30 days) of suckled lambs;

2) a significant decrease ($P < 0.05$) of milk yields during machine milking (180 days) after weaning.