

**PROGETTI DI “RICERCA CORRENTE 2016”**  
**RELAZIONE FINALE**

**N. identificativo progetto: IZS LT 17/16 RC**

**Progetto presentato da:**

**ISTITUTO ZOOPROFILATTICO SPERIMENTALE**

**LAZIO E TOSCANA “M. ALEANDRI”**

**Area tematica: Benessere Animale**

**Titolo del progetto:** La diagnosi di gravidanza  
nell’asina da latte: ipotesi sperimentali per lo sviluppo  
di un test immunologico

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**Responsabile Scientifico:** dott.ssa Cristina Roncoroni

## SUMMARY

Key words: donkey; reproduction; PAG.

The donkey, domesticated and bred for the transport of goods and people, risked extinction with agricultural mechanization. In recent decades, this species has been re-evaluated not only for use in recreational, sports and rehabilitation activities, but also thanks to the composition of its milk which is closest to human milk. Milk production is closely linked to reproductive efficiency, which in this species is less linked to seasonality than in horses. In addition to selecting the males that also takes into account sexual behavior, the breeder needs to have early pregnancy diagnosis methods in order to separate pregnant females from the stallion as soon as possible. The ultrasound diagnosis, although valid, often proves difficult, if not impracticable, in a still largely semi-extensive farm that takes place, at least in dry conditions, in pasture.

Furthermore, since it is a semi-extensive breeding, the male is always left in the group of females so the date of conception is often unknown to the breeder. In other species, especially in ruminants, pregnancy-specific glycoproteins have been isolated and are used for early diagnosis and for monitoring fetal-placental well-being: Pregnancy-associated glycoproteins (PAGs). In ruminants, they are present in the peripheral circulation from the first month of gestation until delivery. The finding of the expression of new members of PAGs in pigs and horses show that the production of these glycoproteins is not exclusive to ruminants. Its isolation has not yet occurred in the asinine species but, as has happened for other species, the determination of PAGs in serum through the use of heterologous antibodies could prove to be a valid aid for the diagnosis of pregnancy. It was possible to detect the presence of PAGs in the serum of pregnant donkeys at different stages. For this purpose, several antibodies used in different species were evaluated at the same time. At the same time, the suitability of the dosages of P4, PMSG and E1 was assessed in order to be able to offer breeders a valid protocol in relation to the type of management adopted (controlled riding / free riding, paddock farming / pasture breeding).