

**SUPLEMENTASI FETAL CALF SERUM DENGAN DOSIS YANG
BERBEDA PADA MEDIUM UNTUK MENINGKATKAN
KEMAMPUAN MATURASI IN VITRO
OOSIT KAMBING**

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INTISARI

Penelitian ini dilakukan untuk mengetahui pengaruh *Fetal Calf Serum* (FCS) sebagai suplemen protein pada maturasi *in vitro*. Ovarium kambing diperoleh dari Rumah Potong Hewan dan dibawa ke laboratorium dalam termos berisi 0,9% NaCl pada suhu 31-34°C. Oosit dari folikel berukuran diameter 1-6 mm diaspirasi menggunakan *syringe* 3 ml dan jarum 23G. Pencarian oosit dilakukan di bawah mikroskop stereo. Oosit dicuci 3 kali dengan *Dulbecco's Phosphate Buffered Saline (DPBS)* dan *Tissue Culture Medium-199 (TCM-199)* kemudian dimaturasi dalam *disposable tissue dish* pada 38-39°C, kelembaban udara 95%, dan 5% CO₂ selama 24 jam. Oosit dibedakan dalam tiga kelompok berdasarkan dosis: a. V/0 (oosit kambing tanpa suplementasi FCS); b. V/10 (oosit kambing dengan suplementasi FCS 10%); c. V/20 (oosit kambing dengan suplementasi FCS 20%). Data dianalisis menggunakan oneway ANOVA dengan dosis FCS sebagai faktor utama. Persentase *mature* oosit dianalisis secara deskriptif. Hasil dari penelitian menunjukkan bahwa suplementasi FCS dengan dosis yang berbeda memberikan pengaruh yang berbeda nyata terhadap kemampuan maturasi oosit kambing *in vitro*. Persentase *mature* oosit dari ketiga kelompok perlakuan secara berturut-turut: 61,61±7,13%; 84,90±4,25%; dan 93,26±3,25% dan persentase oosit rusak 24,40±7,85%; 10,16±3,59%; dan 1,25±1,25% untuk suplementasi FCS 0%, 10%, dan 20%. Berdasarkan hasil tersebut, dapat disimpulkan bahwa kemampuan maturasi oosit kambing *in vitro* cukup tinggi (>50%) dengan persentase tertinggi diperoleh dari oosit yang disuplementasi FCS 20%.

(Kata kunci: *Fetal Calf Serum*, Oosit kambing lokal, Maturasi *in vitro*, Persentase oosit *mature*)

**DIFFERENT DOSE OF FETAL CALF SERUM SUPPLEMENTATION ON
THE MEDIUM TO INCREASE *IN VITRO* MATURATION
ABILITY OF GOAT OOCYTE**

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ABSTRACT

The research was conducted to evaluate the effect of *Fetal Calf Serum* (FCS) as protein supplements for *in vitro* maturation. Goat ovaries were obtained from a local slaughterhouse and transported to the laboratory in a flask of saline (0.9% NaCl) at temperature 31-34°C. Follicles of 1-6 mm in diameter were aspirated with an 23G needle and syringe 3 ml. Searching of oocytes were done under stereo microscope. Oocytes were washed 3 times with *Dulbecco's Phosphate Buffered Saline (DPBS)* and *Tissue Culture Medium-199 (TCM-199)* then matured into drop of medium in disposable tissue dish under 38-39°C, 95% humidity, and CO₂ 5% for 24 hours. Oocytes were divided into three groups based on the dose: a. V/0 (goat oocytes without FCS supplementation); b. V/10 (goat oocytes with 10% FCS supplementation); c. V/20 (goat oocytes with 20% FCS supplementation). Data was analyzed by using oneway ANOVA with the dose of FCS as the main factor. Percentages of mature oocytes were reported descriptively. Result of the present study showed dose of FCS had no significant effect on *in vitro* maturation ability. The percentages of mature oocytes from three groups were 61.61±7.13%; 84.90±4.25%; and 93.26±3.25%, and the percentages of damaged oocytes were 24.40±7.85%; 10.16±3.59%; and 1.25±1.25% for 0% FCS, 10% FCS, and 20% FCS, respectively. Based on the result in could be concluded that the ability of *in vitro* maturation of goat oocytes was high (>50%), with biggest percentage got from oocytes that supplemented with 20% FCS.

(Key words: Fetal Calf Serum, Local goat oocytes, *In vitro* maturation, Percentage of mature oocytes)