

## Dose dependent effect of protein synthesis inhibitor on the developmental potency of parthenogenetic goat embryos

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The objective of the present study was to compare the dose dependent effect of a protein synthesis inhibitor (6-dimethylaminopurine) following activation with calcium ionophore of in-vitro matured goat oocytes. A total of 1015 cumulus oocyte complexes (COC's) were collected from 345 ovaries. Oocytes were matured in TCM-199 medium containing FSH (5µg/ml), LH (10µg/ml), oestradiol-17β (1µg/ml), EGF (10ng/ml) supplemented with 10 % fetal bovine serum at 38.5°C and 5% CO<sub>2</sub> in an incubator under humidified air for 27h. In-vitro matured oocytes were evaluated for maturation on the basis of cumulus expansion and got 95.76% maturation rate. Morphological matured oocytes (n=972) were selected, denuded and randomly divided into five groups. Group 1 (n=170) in-vitro matured oocytes activated with 5 µm Calcium ionophore for 5 min. and cultured in mCR2aa medium without DMAP treatment for 4 hours (control). Group 2 (n=189) in-vitro matured oocytes activated with 5 µm Calcium ionophore for five min. and cultured in mCR2aa medium containing 2.5 mM DMAP for 4 hours. Group 3 (n=272) in-vitro matured oocytes activated with 5 µm Calcium ionophore for five min. and cultured in mCR2aa medium containing 5 mM DMAP for 4 hours. Group 4 (n=178) in-vitro matured oocytes activated with 5 µm Calcium ionophore for five min. and cultured in mCR2aa medium containing 10 mM DMAP for 4 hours. Group 5 (n=163) in-vitro matured oocytes activated with 5 µm Calcium ionophore for five min. and cultured in mCR2aa medium containing 20mM DMAP for 4 hours. After 4 hours of DMAP treatment, the presumptive zygotes of five groups were washed and cultured in the embryo culture medium. Development of activated oocytes was observed at every 48hr till day 14 post activation under inverted phase contrast microscope (200x, Nikon, Japan). The cleavage rate, blastocyst and hatched blastocyst percentage in groups 1, 2, 3, 4 and 5 were 61.76, 0.00% & 0.00%, 59.79, 10.62% & 0.00%, 72.43, 10.66% & 1.52, 64.61, 7.83% & 0.00%, and 63.19, 3.88% & 0.00%, respectively. The results indicated that the cleavage rate, morula and blastocyst development were comparatively higher following activation with 5 µm calcium ionophore and 4hr culture in 5 mM DMAP of in-vitro matured goat oocytes.

### Biography

S D Kharche has completed his Ph.D from Deemed University, Indian Veterinary Research Institute, Izatnagar. He is the Senior Scientist at Central Institute for Research on Goats, a premier ICAR service organization. He has published more than 50 papers in reputed journals and serving as an editorial board member of reputed Open Journal of Animal Science and as referee for several national and International journals. He has received junior and senior research fellowship and several awards from the professional societies. He has visited as an expert for imparting training on A. I., goat management and finalization of action plan to promote and accelerate the progress of research and development in Zambia, South Africa.

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