

## عنوان مقاله:

Biological and physiological characteristics of human cumulus cell in adherent culture condition

## محل انتشار:

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## خلاصه مقاله:

**Background:** Cumulus cells, as oocyte nurse cells, provide a suitable microenvironment with growth factors and cellular interactions required for oocyte maturation. Thus, these cells may serve as a natural niche for in vitro studies of female germ cell development. Cumulus cells may help attain a better understanding of the causes of infertility in women and eventually improve the outcomes of cases that respond poorly to standard infertility treatment. **Objective:** The aim of this study was to isolate, culture, and investigate the biological characteristics of human cumulus cells. **Materials and Methods:** In this experimental study, cumulus cells were isolated, cultured, and characterized using reverse transcription-polymerase chain reaction analyses of specific genes including FOXL2, CYP19A1, FSHR, AMHR, and LHR. The presence of vimentin, a structural protein, was examined via immunofluorescent staining. Moreover, levels of anti-müllerian hormone (AMH) and progesterone secretion by cumulus cells were measured with ELISA after 2, 4, 12, 24, and 48 hr of culture. **Results:** In adherent culture, human cumulus cells expressed specific genes and markers as well as secreted AMH and progesterone into the medium. **Conclusion:** Cumulus cells secrete AMH and progesterone in an adherent culture and might be applicable for in vitro maturation (IVM) and in vitro

## کلمات کلیدی:

Cumulus cells, Conditioned medium, In vitro maturation, In vitro gametogenesis, Niche

## لینک ثابت مقاله در پایگاه سیویلیکا:

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