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DAF promotes endometrial cells proliferation and motility under ovarian hormone stimulation

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Objective: The intent of this study was to explore the elevating expression DAF exerts influence on endometrial stromal cells' biological behavior except in classical immunology on the basis of bioinformatics statistics and clinical miscarriages findings suggesting DAF is a potential molecule related to implantation.
Methods: We analysis the protein and mRNA of endometrial cellular DAF under estrogen, progesterone stimulation, while we used plasmid transfection to down-regulate DAF expression in ESCs to investigate cellular DAF function on endometrial physiological changes.
Results: By using plasmid transfection to down-regulate DAF expression in primary endometrial stromal cells (ESCs), we discovered that the DAF expression of ESCs increases in response to estrogen and progesterone stimulation in a dose- and time-dependent manner; moreover, tamoxifen and RU486 to block ERs and PRs respectively result in reduced DAF mRNA, and it is more significant by blocking PRs. Meanwhile, silenced DAF in ESCs by plasmid transfection weakens endometrial cells' proliferation, migration and invasions. Cell cycle analysis showed knock-down DAF accumulates cells in S phase and diminishing cells in G0/G1 phase, which substantiates DAF mediates endometrial cells proliferation.
Conclusions: DAF in endometrial cells is a potential molecule involving in endometrial cellular proliferation and motility to support up-expressed DAF during the WOI facilitates endometrial physiobiological behavior changes, which shed light on DAF function and potential role in the endometrial receptivity establishment.
Keywords: DAF; endometrial receptivity; hormone; proliferation; motility

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