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60 years after the description of the DNA structure

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AR were significantly diminished by the addition of 5 mM malonate, without affecting motility or sperm viability. Our results demonstrate the activity of SDH and its participation in capacitation and AR in porcine spermatozoa, indicating the pivotal role of the Krebs cycle in the ATP production required for these processes.

A111
IDENTIFICATION OF HEPARAN SULFATE IN HUMAN OOCYTES AND PRELIMINARY EVIDENCE ON ITS POSSIBLE ORIGIN.

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Oocyte decondensing ability varies with oocyte maturation. We have proposed that HS present in ooplasm acts as human sperm decondensing agent *in vivo*. The aims of this study are: **1)** to determine the presence of HS at different stages of oocyte maturation and **2)** to characterize GAG synthesis in mature (MII) oocytes, **C**umulus **C**ells or **C**umulus **O**ocyte **C**omplex. **1)** Immunocytochemistry of **G**erminal **V**esicles, MII and CC revealed that HS is present in MII (65510±1582 **A**rbitrary **U**nits vs 8579±742 AU (control), t-test, $p<0.05$, n=11), GV (186000±8065 AU vs 1996±4 AU, t-test, $p<0.05$, n=26) and CC (31010 ± 3971 AU vs 10900 ± 5985 AU, t-test, $p<0.05$). **2)** MII, COCs or CC were cultured 24h with [^{35}S]-sulfate and [^{3}H]-glucosamine. Guanidine hydrochloride extracts were chromatographed and eluted and radioactivity was measured. Preliminary results showed GAG/sulfated proteoglycan synthesis in MII, CC and COCs, but not in equal magnitude. **1)** HS ubiquitous location could be reassuring sperm decondensation. **2)** Preliminary metabolic results indicate that HS synthesis requires COC integrity.

A112
ACTIVATION OF FIBROBLAST GROWTH FACTOR RECEPTORS (FGFRs) AND RELATED SIGNALING PATHWAYS IN HUMAN SPERM

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In somatic cells, FGFRs modulate several cellular functions by the activation of signaling pathways that involve the phosphorylation of FGFRs, MAPK/ERK and PI3K/Akt. Previous studies from our laboratory have shown the presence of FGFRs in human sperm, although there is no evidence of their functionality. The aim of the present study was to analyze FGFRs, ERK and Akt activation in human sperm in response to the ligand (FGF). Sperm were incubated under capacitating conditions for total 4 h and exposed to FGF (1, 10 or 100 ng/ml) during the last 15 min. FGFRs, ERK and Akt phosphorylation was evaluated by immunocytochemistry and Western immunoblotting using specific antibodies against the phosphorylated forms. The 27±4 % of the 4-h capacitated sperm showed phosphorylation of flagellar FGFRs and the exposure to 10 and 100 ng/ml FGF led to a significant increase ($P<0.05$) in the percentage of immunoreactive cells (44±2 % and 57±3 %, respectively; n=3). In sperm treated with FGF, an increase in flagellar ERK and Akt phosphorylation was also observed (n=6). These effects were blocked when sperm were preincubated for 15 min with a FGFR specific inhibitor (BGJ398). In conclusion, sperm FGFRs are functional since exposure to the ligand induces their phosphorylation and the activation of the ERK and Akt signaling pathways. Supported by grants from Fundación Fiorini (2012, CIMB) and CONICET (PIP2120, MHVL).

A113
DYS/FXYD5 EXPRESSION IN HUMAN AND MURINE TESTIS AND SPERMATOZOA. CO-LOCALIZATION STUDIES WITH EPITHELIAL CADHERIN AND ACTIN

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Dysadherin (Dys) is a cell membrane glycoprotein overexpressed in human tumors. It acts as a negative modulator of epithelial cadherin (Ecad), at least in part, by competing for the actin cytoskeleton. The murine homologue, FXYD5, is expressed in normal adult mouse tissues. Our group has reported Ecad expression in the male reproductive tract and spermatozoa in both human and murine species, and its participation in gamete interaction. The aim of the study was to evaluate Dys/FXDY5 expression in human and murine testis and spermatozoa and its co-localization with Ecad and actin in the male gamete. Methods involved 1)RT-PCR to detect transcripts, 2)SDS-PAGE/Western-Immunoblotting to immunodetect protein forms in cell and tissue extracts, 3)Immunohistochemistry to assess protein expression in the testis, 4)Fluorescence microscopy to characterize Dys/FXYD5 localization and co-localization with Ecad and actin/filamentous

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