색을 통하여 인간 고환에서 그 산물이 T-형 VDCC 중 알파 1H임을 확인하였다.

본 연구의 결과 T-형 VDCC가 인간정자의 첨체 반응에 주로 관여한다는 것을 알 수 있었다. T-형 VDCC에 대한 연구가 더욱 진행된다면 인간 정자의 첨체 반응에 대한 기작을 알 수 있으며 또한 안전하고 편리한 남성 피임제의 개발에 응용될 수 있을 것이다.

## O-17 Effects of Fertilization Promoting Peptide on Kinematic Parameters, Capacitation and Acrosome Reaction in Human Spermatozoa

**Hee-Gyoo Kang[1], Myo Kyung Kim[1], Dong Hoon Kim[1], Sung Won Han[1], Do Hyun Choi[2], Tag Keun Yoo[2], Moon Kyoo Kim[4] and Ho Joon Lee[1,3]**

*[1]Eulji Medical Science Institute, Eulji Medical Center, Seoul [2]Department of Urology, and Department of [3]Physiology, School of Medicine, Eulji University, Taejon*
*[4]Department of Life Science, College of Natural Sciences, Hanyang University, Seoul*

전립선에서 생성되어 사정과 함께 방출되어지는 것으로 보고되어진 Fertilization Promoting Peptide (FPP)가 정자의 운동성, 수정능력획득 및 첨체반응에 미치는 영향을 알아보고자 하였다. FPP를 0, 25, 50, 100 nM 처리 후 0, 1, 3, 6, 24시간에서의 운동성, 수정능력획득 및 첨체반응정도를 조사하였고, 모든 실험군에 progesterone 1 nM이 첨가된 배양액을 이용하였다. 정자의 운동성은 Computer-aided sperm analyzer를 이용하였고, CTC염색을 통해 수정능력획득과 첨체반응정도를 형광 현미경 하에서 확인하였다. 운동성요인들 중에서 FPP를 처리한 시간-농도의존적으로 BCF, STR 그리고 LIN이 대조군에 보다 유의하게 높게 나타났으며, VAP,VSL, VCL 그리고 ALH 등은 차이가 없었다. FPP (25~100 nM)처리군은 대조군에 비하여 B-pattern 이 유의하게 증가하고 F-pattern은 다소 감소하는 양상을 보여주었으며, 첨체반응은 대조군보다 낮게 나타났다. 한편, 시간이 경과함에 따라 FPP처리군은 B-pattern이 대조군보다 유의하게 증가하였고, 첨체반응은 대조군 보다 낮게 나타났다. 24시간 경과 후에도 FPP처리군은 높은 운동성 요인들을 유지하는데 반하여 대조군은 급격히 감소하였다. 결론적으로 FPP는 progesterone 영향하에서도, 정자를 첨체반응이 유기되기 않은 상태에서 hyperactivation을 유지시켜 주는 것으로 사료된다.

## O-18 Specific Expression of A-myb in Male Germ Cells

**Weon-Young Son[1,4], Jae-Ho Lee[1], Ching-Tack Han[4], Mi-Jung Chang[4], Jong-Hwan Park[2], Seokjoong Kim[3] and Young Chan Kim[1,2]**

*[1]Center for Reproduction and Genetics, [2]Department of Urology, [3]Department of OB/GY, Pundang Je-Saeng General Hospital, Kyungki-do, Korea, [4]Department of Life Science, Sogang University, Seoul, Korea*

Spermatogenesis is the process by which immature male germ cells develop into mature sper-

matozoa, through a series of mitosis, meiosis, and cellular differentiation. The myb gene family consists of three members, A-, B- and C-myb. The proteins encoded by these genes bind DNA in a sequence-specific manner and regulate transcription of target genes. This study was conducted to examine the male germ cell-specific expression of A-myb in mouse and human.

Mouse tissues were collected from adult ICR male and female mice. Human tissues were stored in liquid nitrogen. Western blot analysis was performed using antiserum (generous gift from M. Introna, Italy) raised against human A-myb protein. To study cell-specific expression pattern of A-myb protein in the testis, immunohistochemistry was performed using the same antibody. Immunohistochemical staining in mouse testis was performed using the kit, using an avidin-biotin immunoperoxidase technique. RT-PCR for A-myb mRNA was performed in testes with normal spermatogenesis and Sertoli cell- only syndrome (SCO).

Western blot analysis of adult mouse tissue revealed a predominant A-myb expression in the testis, with very low expressions in the ovaries, spleen, liver, muscle, kidney, lung, stomach, uterus, and brain. In human, significant A-myb protein expression was also observed in testis, whereas a small amount of A-myb was detected in breast, stomach, prostate, colon, liver, ovary, epididymis, and testis with SCO. Immunohistochemical analysis of adult mouse testis shows that this gene is expressed at high levels in spermatogonia, and preleptotene and pachytene spermatocytes, with concomitant down-regulation during terminal differentiation of these cells into mature spermatozoa. On RT-PCR, A-myb mRNA was expressed in the testis with normal spermatogenesis, but not detected in testis with SCO.

These results demonstrate that the A-myb is highly expressed in male specific germ cells, suggesting that A-myb might play a specific role during the early process of spermatogenesis, i.e. proliferation and/or differentiation, in mouse and human. Further studies to determine the functions of A-myb in the testis should improve understanding of the molecular events associated with spermatogenesis.

## O-19 Stage- and Cell-specific Expression of Pituitary Adenylate Cyclase-Activating Polypeptide Type I Receptor Gene During Rat Ovarian Follicle Development

**Hyun-Jeong Park*, Jin Lee, Hyuk-Bang Kwon and Sang-Young Chun**

*Hormone Research Center, Chonnam National University, Kwangju 500-757*

Pituitary adenylate cyclase-activating polypeptide (PACAP), a neuropeptide with considerable homology to vasoactive intestinal peptide, has been shown to be stimulated by gonadotropins in the ovary. The present studies further evaluated the cell-type specific expression and gonadotropin regulation of PACAP type I receptor (PACAPR) in immature rat ovaries by Northern blotting, *in situ* hybridization and RNase protection assay. Northern blot analysis of ovaries obtained from immature rats revealed the increased expression of PACAPR during prepubertal development. The major cell types expressing PACAPR messenger RNA (mRNA) were granulosa cells of large preantral follicles. Treatment with equine chorionic gonadotropin (eCG) to immature