

**James Rennie Bequest Report Monica Bark – Attendance of SRF Tours Conference
Dec 2002 : A paper entitled : The sequence and expression of GDF-9 and the
expression of BMP-15 in the porcine prepubertal ovary**

In December of last year I attended a conference in Tours, France to discuss an experiment which I did as part of my PhD project with Dr Evelyn Telfer. The attendance of this conference was extremely beneficial to my project, and to my understanding of the subject area as it gave me the opportunity to discuss my work with other important members of the reproductive science community, and also speak to other groups about their work in similar areas. It was especially useful as a group presented a paper on similar findings carried out in the pig looking at the same gene as I was looking at, GDF-9, which has never been identified in the pig before. They presented slightly different findings than my paper, so it was useful to discuss their methodologies and discuss any differences which were apparent in their results. There were also many other interesting and important findings which were presented at the meeting which were of great benefit to me.

The paper I presented for this conference was: The sequence and expression of GDF-9 and the expression of BMP-15 in the porcine prepubertal ovary. This work was carried out to identify a gene which has been identified in several mammalian species, but not the pig. GDF-9 is essential for normal germ cell development, and the absence of this gene causes infertility in knock-out mice. Through RT-PCR GDF-9 was isolated and subsequently sequenced, and was found to be very homologous to other species. Below is the submitted abstract for the talk:

Growth/differentiation factor-9 (GDF-9) is a member of the transforming growth factor- β (TGF- β) family, and is essential for follicle development beyond the primary stage. GDF-9 has been identified in several species, including human, cow, sheep, and in rodents. In the present study a 277-bp fragment has been isolated and characterised using primers based on human and mouse exon 2. The amino acid sequence was found to be 88%

homologous with the human sequence. Using RT-PCR GDF-9 was detected in the oocyte but not in any other tissue sample. Bone morphogenetic protein-15 (BMP-15) is a closely related family member, which is also essential for early folliculogenesis, and is expressed only in the oocyte of the mouse, human and sheep. BMP-15 was also only detected in the oocyte using RT-PCR, but was not detected in granulosa or intestine RNA. The results from this study indicate that GDF-9 and BMP-15 are both oocyte factors, and they appear to be oocyte specific.