

Dr Hannah Palliser

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Priority Research Centre:
Priority Research Centre for Reproductive Science



Project Summary:

The inability to treat pre-term labour and maintain pregnancy to term is the leading impediment to reducing the incidence of adverse perinatal outcomes. Current treatments are not adequate for delaying labour beyond 48h and prolonged use of these treatments can adversely affect the fetus. Premature labour and delivery, particularly in the 22-28 week of gestation interval, is the leading contributor to perinatal morbidity and is responsible for a major proportion of perinatal brain injury. It is essential to evaluate all potential new treatments to block threatened preterm labour and active preterm labour and assess the effects of these treatments on fetal well-being. To this end we propose to evaluate novel treatment approaches that we have previously found effective in delaying labour and reducing uterine activity in sheep. This approach is based on the selective blockade of the prostaglandin (PG) F receptor (FP receptor) using the non-competitive PGF receptor antagonist, THG113.31 to delay labour in guinea pigs. Secondly we will use nuclear factor – kB (NF-kB) inhibition to aid in sustaining this suppression by lowering PGHS enzyme expression. We propose this will allow the continuance of pregnancy by re-establishing the pregnancy-associated pattern using an animal model where actions of the uterus and effect on the fetus can be simultaneously evaluated.
