

Neuroprotective benefit and safety of preterm neonatal sulfate supplementation.

Project Description

Project duration:	PhD 3-4 years
Description:	<p>This study will investigate whether sulfate therapy reduces the risk of developing adverse neurodevelopmental outcomes after preterm birth. The study, led by Associate Professor Paul Dawson, has been awarded a grant by the Australian National Health and Medical Research Council (NHMRC). The study is being undertaken following evidence that sulfate is important for brain development and that preterm infants rapidly become sulfate deficient unless their mother receives magnesium sulfate during preterm labour. Magnesium sulfate is currently administered to mothers in preterm labour at less than 30 weeks gestation and reduces the risk of cerebral palsy in the infant. However, almost half of women miss out on this neuroprotective therapy due to insufficient time to give the treatment.</p> <p>To address these challenges, this NHMRC-funded project will investigate both safety and neuroprotective benefit aspects of neonatal sulphate supplementation using an established and clinically relevant preterm animal model. The study is designed specifically to support direct translation to a clinical trial of sulfate supplementation in very preterm infants.</p>
Expected outcomes and deliverables:	<ul style="list-style-type: none"> • Expertise in preterm neonatal research • New ideas and collaborators including neonatologists, physiologists and molecular biologists • Mentorship and supportive lab team environment • Expertise using a preclinical animal model of preterm neurodevelopment and bridging between basic biological research discoveries and translational clinical research • Mastering a wide range of technologies including molecular and cellular biology, medical biochemistry, and neonatal intensive care.
Suitable for:	<p>We are seeking a highly motivated PhD candidate with an interest in preterm neonatal research and a background in neuroscience, physiology and/or molecular biology.</p> <p>Selection criteria:</p> <ul style="list-style-type: none"> • Bachelor's degree with first class honours and/or Masters with an outstanding academic achievement in the field(s) of physiology,

	<p>neurobiology, neonatology, molecular biology or an equivalent field and the potential for scholastic success.</p> <ul style="list-style-type: none">• Academic prizes and awards.• High quality research outputs, including publications in international peer reviewed journals and conference presentations.• A background or knowledge of molecular biology, neurobiology and physiology is highly desirable.• The project will involve significant work with preclinical animal models and so prospective students should be willing to undertake this type of research.• High degree of motivation and organisation, and an ability to work both independently and as part of a team.• Excellent written and oral communications skills in English.
Primary Supervisor:	Associate Professor Paul Dawson
Further info:	Please contact A/Prof Paul Dawson paul.dawson@mater.uq.edu.au to express your interest, attaching your CV, academic transcript, and details of at least two referees.

