$10 million for IMB's superbugs, sexual development research.

2 November 2009

Researchers from the Institute for Molecular Biology, the National Health and Medical Research Council, are using an $10 million grant to study superbugs to studying disorders of sexual development.

Professor Matthew Cooper was awarded $733,000 to develop an immune system against a strain of golden staph known as MRSA, which is resistant to most treatments, and is becoming resistant to vancomycin. The research will look at ways to destroy the bacterial cell wall, which will cause it to attack other nearby bacteria.

"Bacterial infection is a leading cause of death in Australia. In years of the future, drugs are resistant to multiple treatments is becoming common. This is a crucial problem, particularly in hospitals, and it is continuing to be a crucial problem in most large cities. It has also become a major health issue in many rural communities," Professor Cooper said.

Dr Dagmar Wilhelm will investigate sex determination and development in male or a female. Disorders of sex development lead to infertility, cancer, and other factors that can result in genital abnormalities, infertility and even cancer.

"These disorders are more common than often thought. They are the result of two copies of a male or female chromosome, and they can lead to sex reversal in some individuals, and to disorders of sex development in others," Professor Wilhelm said.

Dr Wilhelm has identified new regulators of genes that control sex determination and the differentiation of sex in the embryo. She was awarded $217,000 to study them and provide a basis for potential applications.

Professor Brandon Wainwright will build on previous work, which identified the origins of medulloblastomas, a common and malignant brain tumor in children.

He has been awarded nearly $600,000 to examine the role of these genes in the development of medulloblastomas, and to understand how they contribute to this cancer.
- Dr Kate Stacey - $571,500 to study the factors that contribute to lupus,
- Dr David Pennisi - $625,500 to investigate the role of coronary vessel development,
- Dr Aaron Smith - $535,500 to study the body's own defense against UV damage and the development of melanoma,
- Dr Ben Hogan - $484,000 to discover how cancer cells navigate lymphatic vessels, through which cancer cells can spread,
- Associate Professor Alpha Yap - $583,000 to examine the role of the cellular motor, Myosin VI, to maintain the structural integrity of the body,
- Dr Matt Sweet - $565,500 to investigate therapies that can help prevent or treat infectious diseases such as tuberculosis,
- Professor Rob Parton - $588,500 to study the role of miRNA in prostate cancer and how it is secreted,
- Professor George Muscat - $459,125 to investigate the role of hormonal control of oxidative metabolism,
- Professor Rob Capon - $533,997 to determine the role of radiotherapy in the treatment of prostate cancer,
- Associate Professor Andrew Perkins - $549,999 to investigate the role of proteins that are involved in RNA metabolism and replication,
- Professor David Fairlie - $560,500 to study the role of small molecules in regulating cellular metabolism and human health effects (diabetes, cardiovascular, fat deposition, inflammation).