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## **AusIndustry Innovation Connection grant of \$50k awarded**

**Melbourne, 1 May 2018:** BioDiem Limited (“BioDiem” or the “Company”) is pleased to announce the successful award of a grant under the federal government’s Entrepreneur’s Program: Innovation Connections.

The grant will support important development work being conducted in BioDiem’s subsidiary, Opal Biosciences Ltd (“Opal”) which is developing the novel molecule BDM-I to target the treatment of antibiotic-resistant infections.

The development work includes:

- further detailed exploration of the way BDM-I kills bacteria i.e. its mechanism of action.
- development of an intravenous formulation suitable for efficacy and tolerability studies; and
- exploration of the potential effect of BDM-I against the sexually-transmitted infection chlamydia.

The funds will be matched by Opal with proceeds raised from the recent placement.

### **Mechanism of Action work**

PhD student Michael Radzieta, under the supervision of Associate Professor Slade Jensen at the Ingham Institute, Western Sydney University, will continue the investigation of how BDM-I works to kill bacteria, including methicillin-resistant *Staphylococcus aureus* (MRSA or “Golden Staph”) and vancomycin-resistant enterococci (VRE). An exciting discovery so far is that BDM-I is more active against MRSA strains with thickened cell walls, which causes resistance to the currently used antibiotic, vancomycin. In Associate Professor Jensen’s laboratory, Michael has shown that pretreatment with BDM-I can render previously resistant MRSA strains more sensitive to vancomycin. Additional studies under the grant will use proteomics to explore more closely the effect BDM-I has on bacterial proteins.

### **Formulation studies**

The development of a formulation of BDM-I suitable to use in early stage preclinical efficacy and tolerability studies will provide important information for BDM-I’s development plan and is relevant to all routes of administration e.g. Opal-I, Opal-T and Opal-L. This work will be conducted by a specialist formulation group.

### **BDM-I versus Chlamydia**

Dr Willa Huston, Faculty of Science, UTS, will investigate whether BDM-I has activity against chlamydia. If successful, further studies may be undertaken to look at the ability to cure a chlamydia infection in a tailored non-clinical study. Dr Huston is an expert in the area of chlamydial infections, consequences, and improved treatments and diagnosis. Chlamydia is the most commonly reported sexually transmitted infection (STI) in the United States, with approximately 2.8 million infections reported annually. Most cases do not have symptoms. Untreated chlamydia can cause serious problems including infertility. BDM-I has already shown effect against the bacteria that causes gonorrhoea (*Neisseria gonorrhoea*) and the yeast, *Candida albicans* which causes the common condition of “thrush”.

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### **For further information contact**

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### **About BioDiem Ltd ([www.biodiem.com](http://www.biodiem.com))**

BioDiem is an Australian biopharmaceutical company focused on developing and commercialising vaccines and infectious disease therapies. BioDiem's business model is to generate income from partnerships including with other vaccine and infectious disease treatment companies through existing and new licences to its LAIV vaccine and other technologies. Income comes from licence fees and royalties on sales.

BioDiem's lead technology is the LAIV (Live Attenuated Influenza Virus) vaccine technology used for production of seasonal and pandemic influenza vaccines and is given intranasally. This technology is licensed currently to two commercial partners, in India and China, and is licenced to the World Health Organisation as part of the Global Pandemic Influenza Action Plan to Increase Vaccine Supply. Serum Institute of India's Nasovac-S™ is based on BioDiem's technology and is already marketed in India. BioDiem's antimicrobial technology, BDM-I, is being developed through its subsidiary, Opal Biosciences Ltd.

### **About Opal Biosciences Ltd ([www.opalbiosciences.com](http://www.opalbiosciences.com))**

Opal Biosciences is an Australian biotechnology company and an innovative player in infectious disease treatment. The unmet need for new anti-infectives is due to increasing resistance to existing antibiotics, more widespread and common difficult-to-treat infections, and the paucity of upcoming new treatments. This need has spurred the EU and US to introduce significant financial incentives to encourage development of new anti-infectives.

In laboratory testing a BDM-I gel (Opal-T) has shown antimicrobial activity against **methicillin-resistant *Staph aureus*** (Golden Staph; MRSA). This bacterium is responsible for mild to severe infections, from boils and abscesses to life threatening meningitis, bone or lung infections. Antibiotic-resistant infections can be difficult to treat.

Opal-T gel has also shown activity against ***Neisseria gonorrhoea***, a bacterium responsible for causing the sexually-transmitted disease, gonorrhoea. Rising reports of antibiotic resistance to gonorrhoea are concerning health authorities worldwide.

Opal is currently seeking funding to support the next stage of development of its products including Opal-I, an injectable product.

### **About Ingham Research Institute**

The Ingham Institute conducts world-class medical research. Founded by the community for the community, its award-winning researchers are dedicated to finding better ways to improve health. 100% of funds raised for the Institute go directly to support medical research at the Institute.

### **About Western Sydney University**

Western Sydney University values academic excellence, integrity and the pursuit of knowledge. Ranked in the top two per cent of Universities in the world and the top 100 Young Universities globally, we are globally focused, research-led and committed to making a positive impact on the communities we engage with. We believe excellent research and practical outcomes are essential parts of our overarching research mission. Our research has real impact upon the social, economic and environmental wellbeing of our regional, national and international communities.

### **About University of Technology Sydney (UTS)**

UTS has a bold vision to be a world-leading university of technology. Known for its real world research, industry focus and practice-based teaching and learning UTS is located at the heart of Sydney's premier education and creative precinct. With state-of-the-art campuses and facilities UTS is preparing students to become global thinkers, leaders and innovators. UTS Science is a world-class research intensive faculty with a growing reputation for its research quality and impact across a wide range of disciplines. UTS Science contributes significantly to the UTS mission by high impact research in a vibrant and inclusive environment strengthened by world-class facilities and constant interaction with the scientific professions and its community.