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ASX ANNOUNCEMENT
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Bionomics Presents Promising BNC101 Data at American Association for Cancer Research Conference

Bionomics Limited (ASX:BNO, OTCQX:BNOEF), a biopharmaceutical company focused on the discovery and development of innovative therapeutics for the treatment of diseases of the central nervous system (CNS) and cancer, has released new pre-clinical data from ongoing studies of BNC101, its anti-LGR5 cancer stem cell drug candidate being developed to treat solid cancers.

The data presented at the annual American Association for Cancer Research conference in Washington, DC demonstrates complementary anti-tumour activity between BNC101 and checkpoint inhibitors.

LGR5 positive cancer stem cells are highly prevalent within metastatic colorectal cancer and lead to a higher tumor recurrence in patients. Emerging data shows that cancer stem cells can generate an environment in the tumour that suppress the immune system from functioning as it normally would to attack tumour cells.

Checkpoint inhibitors are a form of immunotherapy that increase the ability of the immune system to recognise and destroy tumour cells that would otherwise escape immune surveillance. However, in the presence of cancer stem cell derived immune suppressive factors, checkpoint inhibitors may not be able to function to their highest potential.

The data provides preclinical evidence in a mouse model of colon cancer that treatment with BNC101 and a checkpoint inhibitor is associated with a greater reduction in T regulatory cells, an immune suppressive cell, and a modest increase in tumor attacking cytotoxic T cells compared to treatment with a checkpoint inhibitor alone. Further preclinical data highlights the ability of BNC101 to induce the recruitment of Natural Killer cells to the LGR5 positive cells through an effect known as Antibody-dependent cell-mediated cytotoxicity (ADCC).

Targeting the LGR5 positive cancer stem cell component of colorectal cancer with BNC101 may release potential suppression of checkpoint inhibitor activity to leverage greater therapeutic benefit to a colorectal cancer patient population. The data strongly supports further clinical evaluation of BNC101 in combination with checkpoint inhibitors.

Poster Presentation details:
Title: Targeting the LGR5 complex with BNC101 to improve checkpoint inhibitor therapy in colorectal cancer

Session Title:	Immunomodulatory Agents and Therapeutics
Session Date/Time:	Tuesday, April 4, 2017, 1:00 pm - 5:00 pm
Presentation Number:	4695
Poster Board Number:	11
Location:	Poster Section 30

A copy of the poster will be available at www.bionomics.com.au following the conclusion of the presentation.

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Abstract
LGR5 is a well characterised marker of intestinal stem cells found at the base of intestinal crypts and a receptor for R-spondins, potent Wnt signalling modulators and stem cell growth factors. Overexpression of LGR5 in colorectal tumor cells has been shown to be a predicative marker of higher relapse rates in CRC patients. BNC101 is a first-in-class high affinity anti-LGR5 humanized monoclonal antibody currently in a Phase I clinical trial in patients with recurrent metastatic CRC. BNC101 has been shown pre-clinically to have anti-tumour activity in multiple CRC patient derived xenografts and limiting dilution re-implantation assays consistent with the hypothesis that LGR5 is a functional cancer stem cell (CSC) target in CRC. Recent evidence suggests that CSCs or treatment resistant cells, due to distinct gene and antigen expression profiles, may share the same immune privilege that is afforded to normal stem cells. Immunologic therapies with checkpoint inhibitors directed against whole tumors are largely biased toward differentiated tumor cells which form the bulk of the tumor. CSCs may also have an immunosuppressive phenotype, allowing them to evade and dampen the anti-tumor host immune response. The syngeneic murine MC38 colorectal cancer model was used to explore the potential synergies of BNC101 and anti-PD-1 treatments. The combination of murine versions of both antibodies drove a reduction (35%) in tumoral Tregs (FoxP3+) when BNC101 and anti-PD-1 were used compared to anti-PD-1 treatment alone. This is a significant finding and shows early efficacy in keeping with the notion that CSCs create an immunosuppressive environment which can be targeted in combination for a better immunotherapeutic response. The activation of antibody-dependent cell-mediated cytotoxicity (ADCC) was demonstrated using BNC101 treatment of cells. Membrane dye tracked U-937 monocytes (which express FcR) were able to specifically cross bind with CHO-LGR5 cells but only in the presence of BNC101 (an IgG1). This potentially indicates a further adaptive immune priming mechanism with the ability to complement the action of checkpoint inhibitors. Understanding the role of CSCs in tumor immunity will help guide future clinical applications of immune checkpoint inhibitors in CSC-driven solid tumors. In addition, combination of immune checkpoint therapies with CSC targeting agents may improve the clinical utility of each approach. These findings support clinical evaluation of BNC101 in combination with checkpoint inhibitors. Releasing the immunosuppressive capabilities of CSC with BNC101 driven targeting of the tumor may extend the reach of the immune system, whereby checkpoint inhibitors are able to leverage greater therapeutic benefit to a larger patient population and extend duration of response.

About Bionomics Limited
Bionomics (ASX: BNO) is a global, clinical stage biopharmaceutical company leveraging its proprietary platform technologies to discover and develop a deep pipeline of best in class, novel drug candidates focused on the treatment of serious central nervous system disorders and on the treatment of cancer. Bionomics' lead drug candidate BNC210, currently in Phase 2 for the treatment of generalized anxiety disorder and for post-traumatic stress disorder, is a novel, proprietary negative allosteric modulator of the alpha-7 (α7) nicotinic acetylcholine receptor. The Company is also developing BNC101, its lead humanized monoclonal antibody targeting a key receptor on cancer stem cells that is overexpressed in metastatic colorectal cancer, metastatic pancreatic cancer and many other solid tumours; BNC101 entered clinical trials in the first quarter of 2016. Bionomics has strategic partnerships with Merck & Co., Inc (known as MSD outside the United States and Canada) in pain and cognition.

www.bionomics.com.au

Factors Affecting Future Performance
This announcement contains "forward-looking" statements within the meaning of the United States' Private Securities Litigation Reform Act of 1995. Any statements contained in this announcement that relate to prospective events or developments, including, without limitation, statements made regarding Bionomics' drug candidates (including BNC210 and BNC101), its licensing agreements with Merck & Co. and any milestone or royalty payments thereunder, drug discovery programs, ongoing and future clinical trials, and timing of the receipt of clinical data for our drug candidates are deemed to be forward-looking statements. Words such as "believes," "anticipates," "plans," "expects," "projects," "forecasts," "will" and similar expressions are intended to identify forward-looking statements.

There are a number of important factors that could cause actual results or events to differ materially from those indicated by these forward-looking statements, including unexpected safety or efficacy data, unexpected side effects observed in clinical trials, risks related to our available funds or existing funding arrangements, our failure to introduce new drug candidates or platform technologies or obtain regulatory approvals in a timely manner or at all, regulatory changes, inability to protect our intellectual property, risks related to our international operations, our inability to integrate acquired businesses and

technologies into our existing business and to our competitive advantage, as well as other factors. Results of studies performed on our drug candidates and competitors' drugs and drug candidates may vary from those reported when tested in different settings.

Subject to the requirements of any applicable legislation or the listing rules of any stock exchange on which our securities are quoted, we disclaim any intention or obligation to update any forward-looking statements as a result of developments occurring after the date of this announcement.