



## Horizon Discovery Group plc Enters Immuno-Oncology Therapeutic Development and Forms Joint Venture with Centauri Therapeutics Limited

### Highlights:

- *Newly formed company Avvinity Therapeutics will be jointly managed by Horizon, via its Research Biotech business, and Centauri*
- *Joint venture creates a differentiated new player in the rapidly growing immuno-oncology market, currently valued at £25 billion*
- *Avvinity will have exclusive rights in oncology to use Alphamer therapeutic platform, invented by a Nobel Laureate and developed by Centauri*
- *Horizon to invest up to £5.3 million, with an initial outlay of £2.5 million, in a joint venture to identify novel immuno-oncology therapeutics*
- *Horizon will contribute its gene editing technology platform and oncology expertise and will also benefit from service revenues from the joint venture*
- *Formation of the joint venture represents a strategic move by Horizon to capture the upside potential of its IP, platform technologies and capabilities in immuno-oncology, synthetic lethality and cell therapy based therapeutics.*

**Cambridge, UK, 2 March 2016:** Horizon Discovery Group plc (LSE: HZD) ("Horizon" or "the Company"), the leading international gene editing company, announces today that it has formed an immuno-oncology joint venture, Avvinity Therapeutics ("Avvinity"), with Centauri Therapeutics Limited ("Centauri"), a UK-based biotechnology company focused on the discovery and development of novel molecules targeting life-threatening infectious diseases. This transaction represents part of Horizon's previously outlined strategy to invest up to £10 million, further leveraged by its IP, technology platforms and know-how, to identify the next generation of molecular and cellular cancer therapeutics.

Avvinity will combine Horizon's gene editing, immunology, oncology and drug discovery capabilities with Centauri's Alphamer technology to provide a powerful and proprietary platform to discover and develop novel immuno-oncology therapeutics, for both solid tumours and leukaemias. Avvinity will be targeting an immuno-oncology market currently worth £25 billion per year and expected to grow to approximately £50 billion per year by 2020.<sup>(1)</sup>

Under the terms of this agreement, Horizon will out-license certain background intellectual property relating to its translational genomics and drug discovery platforms, and will invest up to £5.3 million over two tranches with the first tranche of £2.5m committed, and the second to be committed at Horizon's discretion pending the progress of three development programs. Centauri will license background IP and expertise on its Alphamer technology to Avvinity, which will have exclusivity for



the field of oncology for an initial three year period and can be extended via the issue of further equity concurrently with the raise of new investment.

Avvinity will be managed jointly by Horizon and Centauri, and based on the investment of IP, technology and the first tranche of funding; Horizon will own 33% of Avvinity's equity, representing 50% of the most-preferred class of voting shares. Upon completion of the 2<sup>nd</sup> tranche of funding Horizon will own 49.99% of Avvinity's equity, representing 50% of the most-preferred class of voting shares. The joint venture will be managed within Horizon as part of the Company's Research Biotech business (formerly Horizon's Leveraged business unit).

Neither Horizon nor Centauri will be obliged to provide further funding to Avvinity, though both retain pre-emption rights and may elect to participate in future funding rounds. Subject to achieving key development milestones, Avvinity plans to raise significant new external investment to take its innovative drugs into clinical trials, at which time the value of Horizon's stake in the business would be highly-material.

**Dr. Darrin M. Disley, Chief Executive Officer, President Research Biotech of Horizon Discovery Group plc, said:** *"By combining Horizon's deep understanding of the genetic basis of cancer alongside its gene editing, drug discovery and emerging immuno-oncology toolbox, with Centauri's unique Alphamer technology and knowledge of its use, we have created an exciting new company to spearhead Horizon's move into targeted therapeutic development. We are confident this joint venture will break new ground in the development of immunotherapies, and bring significant value creation to Horizon shareholders."*

*"The establishment of Avvinity is in line with our hybrid Research Biotech strategy to not only work with partners but also take advantage of the therapeutic upside potential of the most exciting new areas of personalised and genomic medicine in a risk-managed way."*

**Dr. Mike Westby, Chief Executive Officer of Centauri Therapeutics Limited, commented:** *"Alphamers are an entirely novel way to target disease and represent an exciting new approach for recruitment of host immunity. At Centauri we have invested to build the Alphamer platform and assembled the drug discovery expertise necessary to exploit the platform in infectious diseases. Through this joint venture with Horizon, we look forward to applying our combined know-how and capabilities to develop Alphamers as important new immuno-oncology medicines, particularly for cancer indications that have proven intractable to date."*

More information on Avvinity can be found at [www.avvinity.com](http://www.avvinity.com).

#### **Notes for Editors:**

Alphamer technology is based on chemically synthesized molecules that redirect naturally occurring antibodies in the human immune system to selected pathogens or cancer cells. One end of a molecule binds a cell-surface target on a pathogen or cancer cell using an aptamer, while the other end presents specific epitopes that attach to the circulating antibodies. The result of this redirection is cell death and subsequent recruitment of the T-Cell mediated pathways to clear the body of the pathogen or cancer cell.



Alphamers promise key advantages over conventional antibody and antibody-drug conjugate molecules in immuno-oncology applications, including the ability to target cancers driven by both wild type (“normal”) gene overexpression as well as mutant (“abnormal”) gene overexpression, and by exhibiting a short half-life in the body yielding reduced toxicity and systemic side-effects. Considerable investment has been made in the Alphamer technology over the past four years and its ability to engage the immune system to destroy bacteria has been confirmed.<sup>(2)</sup>

Platform technologies based around alternative immuno-oncology approaches have secured high valuations once early positive results in clinical trials have been achieved: Amgen’s 2012 acquisition of Micromet valued Micromet at \$1.16b, and in 2013, Spirogen was acquired by AstraZeneca for up to \$440m.

**References:**

1. <http://www.prnewswire.com/news-releases/global--usa-cancer-immunotherapy-market-analysis-2015---forecasts-to-2020-300157219.html>

2. [Retargeting pre-existing human antibodies to a bacterial pathogen with an alpha-Gal conjugated aptamer. Kristian SA, Hwang JH, Hall B, Leire E, Iacomini J, Old R, Galili U, Roberts C, Mullis KB, Westby M, Nizet V. J Mol Med \(Berl\). 2015 Jun;93\(6\):619-31](#)

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**About Horizon Discovery Group plc [www.horizondiscovery.com/](http://www.horizondiscovery.com/)**

Horizon is a leading international gene-editing company that supplies products, services and research programmes that enable genomics research and the development of personalised and genomic medicines. Horizon has a diverse and global customer base of over 1,400 unique organisations across more than 50 countries, including major pharmaceutical, biotechnology and diagnostic companies as well as leading academic research centres. The Group supplies its products and services into multiple markets, estimated to total in excess of £29 billion in 2015.

Horizon's core capabilities are built around its proprietary translational genomics platform, a highly precise and flexible suite of gene editing tools (rAAV, ZFN and CRISPR) able to alter almost any gene sequence in human or mammalian cell-lines.

Horizon offers over 23,000 catalogue products, almost all of which are based on the application of gene editing to generate *in vitro* and *in-vivo* models that accurately model the disease-causing genetic anomalies found in diseases like cancer. These 'patients-in-a-test-tube' are being used by customers to: understand the genetic drivers of disease; identify targets of therapeutic intervention that can moderate or correct these genetic drivers; develop novel medicines and companion diagnostic tests that result in the right patient getting the right medicine.

Horizon also provides custom *in vitro* and *in vivo* disease model generation services, biopharmaceutical manufacturing cell lines and generation services, quantitative molecular reference standards and contract research and custom screening services.

In addition, Horizon through its Research Biotech business deploys the Company's intellectual property, gene-editing platform, products, services and know-how in cancer research, drug discovery and immunology to develop its immuno-oncology, synthetic lethality and cell therapy platforms which aim to deliver novel drug treatments into the pharmaceutical pipeline.

Horizon is headquartered in Cambridge, UK, and is listed on the London Stock Exchange's AIM market under the ticker "HZD". For further information please visit: [www.horizondiscovery.com](http://www.horizondiscovery.com).

**About Centauri Therapeutics Ltd [www.centauritherapeutics.com](http://www.centauritherapeutics.com)**

Centauri Therapeutics is a UK-based biotechnology company focused on the discovery and development of novel molecules targeting life threatening diseases.

Centauri Therapeutics has established a core R&D facility at Discovery Park in Sandwich, Kent, with an experienced team of industry scientists focused on discovery, optimisation and development of novel Alphas targeting acute hospital acquired infections. The company is currently focussed on the development of Alphas against anti-microbial resistant (AMR) pathogens, which pose an increasing threat to human health.

Centauri Therapeutics' Executive team is led by Mike Westby, Chief Executive Officer (previously Pfizer, Roche) and Stuart Lawson, Chief Financial Officer (CEO of the private investment group Animatrix Capital LLP, and previously KPMG). Clive Dix is Non-Executive Director and Chairman of the Board (previously Convergence Pharmaceuticals, PowderMed, PowderJect, Glaxo Wellcome).