



## Ervaxx launches to pioneer the use of Dark Antigens™ for the development of off-the-shelf cancer vaccines and T-cell receptor-based immunotherapies

### Identification of melanoma-specific Dark Antigens to be presented at The Society for Immunotherapy of Cancer 34<sup>th</sup> Annual Meeting (SITC)

London, UK – 6 November 2019. Ervaxx™, a biotechnology company pioneering the use of Dark Antigens™ to develop off-the-shelf cancer vaccines and T-cell receptor-based immunotherapies, formally announces its launch following two years in incubation by SV Health Investors.

Ervaxx coincides its launch with the presentation of new research to identify novel melanoma-specific Dark Antigens by application of its novel EDAPT™ platform at The Society for Immunotherapy of Cancer 34<sup>th</sup> Annual Meeting (SITC) (9 November 2019, National Harbor, MD, USA). Details of the poster can be found below.

Ervaxx' founding idea is that the 'dark matter' of the human genome (i.e. the 98% of the genome that does not encode known proteins) contains antigen-coding sequences that are uniquely expressed by cancer cells and shared across patients. These sequences, which are normally silenced in healthy cells, represent a large potential repertoire of novel antigens that Ervaxx aims to develop as targets for new immunotherapies.

Ervaxx has developed its proprietary EDAPT platform to explore this new and expanding Dark Antigen repertoire, and to identify and assess its tumor-specific and immunogenic potential to combat cancer. EDAPT combines bioinformatics, transcriptomics, immunopeptidomics and state-of-the-art immunology to discover and validate novel Dark Antigens with which to deliver a pipeline of off-the-shelf tumor-specific therapeutic cancer vaccines and T cell receptor (TCR)-based therapies. The platform is built upon pioneering research from the company's founders at the Francis Crick Institute (London, UK) and developed by Ervaxx in partnership with other leading academic collaborators.

Initially, Ervaxx has focused on the discovery and development of off-the-shelf cancer vaccines based on Dark Antigens derived from endogenous retroviral (ERV) related DNA sequences – where significant and compelling research by its founders has been conducted. Retroviral DNA is a component of genomic dark matter and makes up about 8% of the entire genome. Ervaxx and its collaborators have identified thousands of novel ERV-related sequences, with enriched expression in over 30 tumor types.

This work has been further advanced by Ervaxx, which is progressing its lead cancer vaccine programme targeting melanoma, for which highly immunogenic target antigens have been identified. The research being presented at SITC describes the application of EDAPT to identify over 2,000 potential melanoma-specific Dark Antigens encoded by the cancer genomes of melanoma patients using ERV markers to search for aberrantly expressed and highly immunogenic target antigens.

The presentation and tumor specificity of these Dark Antigens were validated, and immunogenicity and lack of central tolerance in normal donor CD8+ T-cells were also confirmed. Constructs encoding



multiple Dark Antigens with high immunogenicity that are conserved across patients and across HLA subtypes have been selected to create a therapeutic, off-the-shelf cancer vaccine.

The company is utilizing the EDAPT platform to expand its discovery focus beyond ERV-related sequences and is also advancing into additional indications, including non-small cell lung cancer, ovarian cancer and other solid tumor indications with high unmet medical need.

Ervaxx has raised \$17.5m in seed/Series A funding from SV Health Investors and a leading (undisclosed) global pharmaceutical company, with which it also has a strategic R&D partnership. The company is headquartered in London and operates R&D from its laboratory in the Bioescalator Building at Oxford University.

The company has established an experienced board of directors chaired by Houman Ashrafian (Ervaxx co-founder, Managing Partner at SV Health Investors) and including Kate Bingham (Managing Partner at SV Health Investors), Tim Edwards (Karus Therapeutics, AstronauTx, Storm Therapeutics and others); Veronique Birault (Director of Translation at the Francis Crick Institute) and Kevin Pojasek (Ervaxx President & CEO and Venture Partner at SV Health Investors).

**Kevin Pojasek, CEO of Ervaxx, said:**

*“We are delighted to announce our formal launch today and to bring forward our exciting and innovative science. Our Dark Antigens™ have the potential to bring new and effective cancer treatments to patients by providing a completely new set of targets, which can be combined to maximise population coverage and immunogenic response. We believe we are the first company with an integrated platform designed to explore the dark matter of the genome for novel cancer targets. Our hope is that this pioneering approach will generate a new wave of effective immunotherapies for a wide range of cancers.”*

**Houman Ashrafian, Chairperson and Co-founder of Ervaxx, added:**

*“The science behind Ervaxx is truly ground-breaking and opens up exciting possibilities for the development of new and multiple modalities of tumor-specific cancer therapies based on Dark Antigens. We are delighted with the progress the company has made during its incubation phase. An excellent team has been brought together with new R&D capabilities to rapidly drive the translation of this research into the clinic. We look forward to supporting its progress as a pioneer in this new cancer immunotherapy approach.”*

**SITC Poster details**

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|------------------|---|
| Abstract title:  | Discovery of immunogenic ERV-derived antigens as targets for melanoma immunotherapy |
| Abstract number: | P680  |
| Authors:         | Jupp, R. <i>et al</i>   |
| Date/time:       | Saturday, 9 November, 07:00am - 08:30pm   |

**ENDS**



## About Ervaxx™

Ervaxx is pioneering the use of Dark Antigens™ to deliver targeted off-the-shelf cancer vaccines and other immunotherapies for treating and preventing cancer. Ervaxx Dark Antigens derive from vast untapped expanses of genetic 'dark matter' beyond the normal coding regions of the genome, which are generally silenced in normal tissue but can become selectively activated in cancer.

Ervaxx' powerful, proprietary EDAPT™ platform has been developed to discover and validate Dark Antigens providing an in-depth assessment of candidate antigens on primary tumor cells along with their immunogenic potential. The EDAPT platform has identified proprietary antigens that map to multiple solid tumor types and generate robust, antigen-specific T-cell responses. Ervaxx is advancing a pipeline of off-the-shelf cancer vaccines and T cell receptor (TCR)-based therapies leveraging these insights into the role of Dark Antigens in cancer.

Ervaxx was co-founded by SV Health Investors and is based on pioneering research at the Francis Crick Institute (London, UK). The company has offices in London, UK and a laboratory in the Bioescalator Building at Oxford University, UK. Ervaxx also has a strategic partnership with a global pharmaceutical company.

For more information visit: [www.ervaxx.com](http://www.ervaxx.com)

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### FOR MORE INFORMATION

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