

## Calviri's Impact

Calviri has made discoveries and invented technologies that put it in position to make transformative improvements in health worldwide.

First, we discovered that tumors make abundant and shared errors in RNA synthesis and processing. These errors lead to the synthesis of neoantigens. Neoantigens are now recognized as essential for robust immune responses against tumors. RNA-error derived neoantigens (REDNs) are the only type of neoantigens that could be used to make off-the-shelf, affordable therapeutic and preventative cancer vaccines. There are 2 million possible RNA neoantigens. The only way to discover which ones are useful as vaccines is to evaluate them on high density peptide arrays. Calviri has the technology to make these arrays and an approach for evaluating them.

Since our discovery of RNA processing errors in cancer, others have discovered that this same phenomenon is a hallmark of most, if not all, chronic diseases, aging and senescence. In the future, our peptide arrays could therefore be the neoantigen source for vaccines against any of these losses of health and fitness.

Our second discovery is the basis for being able to simply monitor for any change in health status. We were the first to realize that the B-cells in a person's blood are constantly assessing the whole body for any small perturbation and when detected they release antibodies against it. By comprehensively profiling the antibodies in a person we can detect essentially any disease or infection at early stages with high resolution. We are first focusing on the early detection of cancer but will be able to apply this to other diseases. Calviri's arrays enable this diagnostic.

Calviri's discoveries and technologies will allow us to make vaccines and diagnostics that are transformative. The key is the arrays. We have already made a **preventative cancer vaccine for dogs that is working**. We have provided data on the diagnostic capabilities that is the basis for partnership/license negotiations for a diagnostic in dogs. We have spent almost 3 years working to take the array capabilities to even higher levels. The only way to make a vaccine to end cancer or a diagnostic to detect early disease is by exploiting our RNA neoantigen discoveries. Calviri's arrays make these products possible.