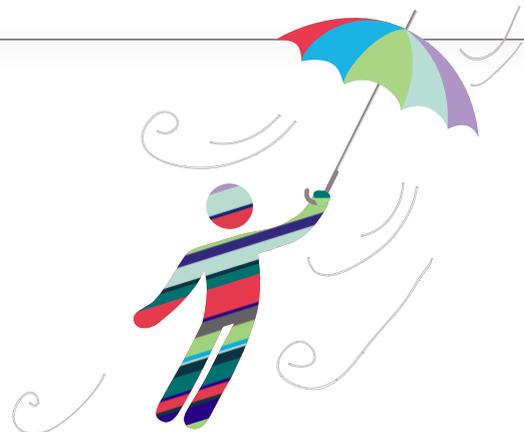


Dear friends and Protagen collaborators,

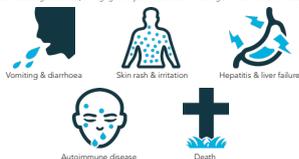
Autumn has arrived, and we look back at a brilliant and busy summer. We continued to make great progress in immuno-oncology (IO), filing our second patent in this important field. There is growing acceptance of the importance of B-cells in this field. Recently, concerns about observed toxicities, in particular with IO combination therapies, resulted in setbacks for several clinical trials, pointing towards an increased demand in biomarker-related activities. A platform like SeroTag® therefore holds great promise by offering detailed analysis of B-cell response, meaning we can assess the nature, and enable the prediction, of immune-related adverse events (irAEs). We are building on this approach together with our strategic partners and as always, we will keep you informed of our progress.



Immuno-Oncology

Immune-related adverse events

Immunotherapy stimulates the immune system. While this works to arm immune cells to attack cancer cells, this can also induce negative effects, damaging healthy cells and tissue and leading to illness and sometimes death.



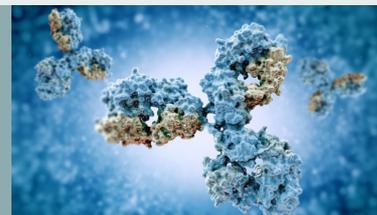
Over the summer months, we made further progress in immuno-oncology. To date we have data on 19 different tumour entities and 4 commercially available checkpoint inhibitors. These data are not only important for understanding the mode of action of checkpoint inhibitors themselves, but also for numerous combination therapies under development. This is particularly important considering the recent study holds by the FDA due to observed toxicities in combination therapy trials. Here, our approach supports improved patient stratification.

Conferences & Meet us @



In the coming weeks we will be attending various conferences, and are looking forward to seeing you there. We will be presenting at the **European Business Development conference** in Heidelberg; the **10th World Congress on Biomarkers & Clinical Research** in Baltimore; the **American College of Rheumatology (ACR) meeting** in San Diego; immediately followed by the annual meeting of the **Society for Immunotherapy of Cancer (SITC)** in National Harbor; the **German Equity Forum** in Frankfurt and **BioEurope** in Berlin!

Corporate News & PR



Over the past few months we've published editorials on Sjögren's disease in **Technology Networks** and in **Medicinal Chemistry News**, as well as our biomarker strategy "from bench to bedside" in the Luminex quarterly journal. You may also have noticed that we made updates to our **website** and **LinkedIn** page to reflect our new immuno-oncology focus. In a few days we will finalize our new immuno-oncology whitepaper, which we will distribute via a separate e-mail campaign to you, so watch this space!

Quarterly Update

The last quarter at Protagen was all about immuno-oncology. From the lab team to medical research and marketing, in all areas we continued our expansion in this field. We have now analysed more than 2,000 patient samples, and therefore were able to double those numbers compared to our

last report, thanks to our collaborators at the National Cancer Institute (NCI), USA and National Center for Tumor Diseases (NCT), Germany. We have established autoantibodies as a new biomarker class in IO and the accurate prediction of immune-related adverse event (irAEs) (before the

onset of treatment) is fast becoming a reality. In certain tumour entities, the prediction of overall survival certainly seems possible (and we are of course busy working on other tumours too), opening new opportunities for biomarker strategies in this exceptionally important pharma market.

News

Antibodies in Drug Discovery: Identifying Novel Biomarkers to Overcome Sjögren's Syndrome

Sjögren's syndrome hit the headlines recently as tennis star Venus Williams opened up about suffering from this incurable autoimmune condition. Here we discussed new diagnostic tools that could lead to improved therapeutic success and a better quality of life for the millions of patients suffering from Sjögren's syndrome around the world.

[READ MORE](#)

Taking biomarkers from the bench to the bedside

We are using Luminex's FlexMap 3D multiplexing technology in combination with our SeroTag® biomarker identification and development platform to create assays to support the development of drugs and companion diagnostics.

[READ MORE](#)

Finally – Autumn Time

Kite season is upon us, and we wish you endless fun with your kids! Let us know if you beat the following world record: The fastest kite flight ever recorded occurred on Sept. 22, 1989 by Pete DiGiacomo. His kite reached a top speed of 120 mph. The flight took place in Ocean City, Maryland and was recorded by a local police officer with a radar gun!

