

Sustaining long-term growth by focusing on our customers

Our capabilities and customer focused strategy are opening growth opportunities in addressable markets of approximately \$8 billion.

Across our core reagents business, we continue to focus on providing scientists with the most reliable and effective tools to advance their research. We are building further on our reputation for providing comprehensive, transparent data, fast delivery, excellent customer service and expert technical support.

At the same time, through investment and acquisition, we are expanding into new markets, identifying new technologies and applications that allow us to better serve the needs of our customers, whilst moving into new geographic regions to expand our reach.

Key areas of focus across our business over the last 12 months include:

- Anticipating and serving customer needs, faster
- A relentless focus on improving quality
- Innovating in immunoassays
- Extending our services for diagnostic and therapeutic antibody customers

Anticipating and serving customer needs, faster

New proteomics targets are constantly being identified by scientists around the world as they strive to advance their understanding of crucial biological pathways, creating demand for effective new research tools. Driven by those needs, in 2018 Abcam published over 1,700 new recombinant RabMAb antibodies on its catalogue and added many more applications for its existing antibodies. New products included antibodies developed for targets across major research areas such as oncology, neuroscience and epigenetics, antibodies conjugated with dyes, antibody pairs and affinity binders for our kits.

We continue to invest in ways to deepen our understanding of customers so that we can better anticipate their needs and identify high-value targets. At the same time, we are working to improve our website and digital marketing capabilities, increasing the ease and efficiency with which consumers can find and use those products, as well as investing in our R&D, supply chain and manufacturing capabilities, to enable us to increase the speed at which we can create, manufacture and deliver those products to customers.

How our customers benefit

Customers benefit by being able to conveniently find and access the products and information they need to confidently conduct their research.

How this translates into growth

Consistently offering convenient and fast access to the products researchers need, together with expert support, helps us to maintain the loyalty of existing customers and attract new ones.

Alignment to strategy



30.5%

Number of protein targets where Abcam holds #1 position (by citation): 21.9% (2013) to 30.5% (2017)

1,700+

Recombinant RabMAb® products added to the catalogue



Highly commended – Researcher's choice: Antibody company succeeding in cancer biology, antibody company of the year



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Our collaboration with Abcam has been extremely successful. Abcam's Custom Products team developed new antibodies for challenging targets. The antibodies are not only high-quality, but Abcam's team has managed to significantly reduce the lead time of development, helping to speed up our research. Indeed, without our collaboration with Abcam, our work would have taken at least six months longer.

Dr Feng Shao

National Institute of Biological Sciences, Beijing, China

Improving cancer treatment

Chemotherapy can cause a host of harsh side effects. This is because the drugs used cause a type of cell death known as pyroptosis. Unlike 'normal' programmed cell death (apoptosis), pyroptosis is highly inflammatory. Dr Shao and his team discovered that by changing the levels of a particular protein, gasdermin E (GSDME), these adverse side effects could be lessened or even avoided.

Working closely with Abcam to develop custom recombinant RabMAb® antibodies, Dr Shao was able to identify the levels of GSDME across dozens of normal and cancerous cells and tissues. He proved that high GSDME levels cause cells to undergo pyroptosis rather than the much less-damaging apoptosis in response to chemotherapy drugs.

Crucial to Dr Shao's research was using a highly sensitive antibody. The antibody developed with Abcam enabled detection of GSDME at very low levels. Dr Shao estimated that without the collaboration with Abcam, his team would have required at least an additional six months to produce their Nature paper. This work not only gives great insight into cell death and cancer but raises the possibility of improving chemotherapy outcomes and using GSDME as a cancer diagnostic or prognostic tool.

A relentless focus on improving quality

The quality of antibodies – measured by their specificity, sensitivity and repeatability – is a priority for our customers and, therefore, a major focus of our work and investment at Abcam. We are investing to increase the standards and breadth of product validation, including over 1,400 products that now benefit from our market-leading knockout validation.

Our investments in the latest recombinant antibody production technology mean that our more than 12,800 recombinant antibodies ensure the highest standard of repeatability for researchers and drug development teams. At the same time, we continue to work closely with our supplier partners to ensure that they meet our high standards.

Together, these initiatives are ensuring we continuously improve the reliability and performance of our products, helping to earn the loyalty of our existing customers whilst attracting new ones.

How our customers benefit

Providing high-quality products with detailed and reliable data helps to increase our customers' confidence in their results.

How this translates into growth

Consistently meeting the high expectations of our customers helps us to gain share in our markets over time.

Alignment to strategy



\$10bn

Estimated annual US research wasted due to reagent quality (Source: PLOS study, June 2015)

1,400+

Abcam products knockout validated to date

+22.3%

Growth (CER) in Abcam's recombinant product sales (2017/18)



As with all protein research, our work in epigenetics requires highly sensitive and specific antibodies to ensure consistent and clear signals. We have worked with Abcam's recombinant RabMab® antibodies in the past and value their best-in-class quality and performance, which provides confidence in our research.

Professor Jinzhong Qin
Nanjing University, Nanjing, China

Advancing research through collaboration

Professor Jinzhong Qin specialises in regulatory mechanisms of epigenetics, particularly in the proliferation and differentiation of stem cells. He has come to rely upon the merits of Abcam's range of highly sensitive and specific recombinant RabMab® products. As a result, he recently partnered with Abcam to develop custom RabMab® products. This has led to several new primary antibodies being added to the Abcam catalogue against important targets (like polycomb proteins and M-phase phospho-proteins). These have been pivotal in Professor Qin's research discoveries.

Innovating in immunoassays

Kits and assays remain an important growth opportunity for Abcam, with an estimated market size of approximately \$500 million for research use. These kits contain all the reagents researchers need to run an experiment and can save considerable time.

We are investing and innovating to move our market-leading antibodies into these products as quickly as possible and at the same time we are raising awareness of these products amongst our consumer base. In the last year we created new products using our recombinant antibody and FirePlex® assay technologies including high-throughput assays to address new customer needs. Overall, we have introduced approximately 400 new immunoassay products during the year, including matched antibody pairs, singleplex immunoassays (SimpleStep ELISA®), and multiplex immunoassays using the FirePlex® particle platform.

At the same time, we have established supply agreements with several leading instrument partners as we work to expand the availability of Abcam's differentiated antibody content to the widest population of scientists, across the broadest range of platforms.

How our customers benefit

Putting our high-performance antibodies into our singleplex and multiplex kits helps customers save time whilst ensuring that the reliability of results is maintained.

How this translates into growth

Abcam has an opportunity to continue to grow its share of the immunoassay market by consistently providing high-quality, differentiated products.

Alignment to strategy



+25.4%

Immunoassay growth (CER)

2,500+

Immunoassay kits on our catalogue



Abcam enabled us to further research into cancer which could see patients get earlier treatment. Abcam's FirePlex® microRNA platform has been a vital part of our research. Not only have I been able to speed up my research and reduce the use of precious sample requirements, but we have managed to identify a key cancer biomarker.

Jordan L Plieskatt

Department of Microbiology, Immunology, and Tropical Medicine, The George Washington University, USA

Helping to diagnose and fight cancer with help from FirePlex® assays

Common to Southeast Asia is a small flatworm that you can pick up from eating raw or undercooked fish. Infection with this parasite will predispose you to a cancer of the bile ducts.

Jordan had been looking at microRNA (miRNA) in blood samples for biomarkers to diagnose this cancer. FirePlex® allowed Jordan to evaluate miRNA from small samples faster and more cost-effectively than traditional methods which require large samples and are tricky to run. It has helped him identify a useful biomarker for this cancer, with the potential for patients to get earlier clinical treatment through earlier diagnosis.

FirePlex® looks set to help with the ongoing development of an affordable diagnostic for this disease and other similar infection-related cancers.

Extending our services for diagnostic and therapeutic antibody customers

Beyond our expertise in the development and sale of research antibodies, we retain strong capabilities in the custom design and manufacture of recombinant antibodies and are building an emerging reputation for successfully partnering with pharmaceutical, diagnostic and instrumentation companies.

We continued to strengthen our commercial and development teams in the year, further extending our capabilities in this area. To date, we have put in place development agreements with over 20 leading diagnostic and biopharmaceutical companies, supporting their diagnostic and clinical programmes.

How our customers benefit

Businesses work with Abcam to help develop antibodies and immunoassays that they then take to market for diagnostic and therapeutic use.

How this translates into growth

Abcam benefits from these relationships through opportunities to license, and from downstream milestones and potential royalties, as well as from the opportunity to sell the research-grade version of the antibody or immunoassay into our core research markets via our website. For more information on the diagnostic and therapeutic market opportunity see Our Markets section on pages 8 to 13.

Alignment to strategy



+17.6%

2017/18 CER growth in Custom Products and Licensing revenue

28

Frameworks agreements entered in 2017/18

150+

Custom projects initiated in 2017/18



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We have been working closely with Abcam for several years now to help develop antibodies for our assays. Critical to our partnership is the trust we place in Abcam to provide us with high-precision antibodies suitable for the stringent standards required in clinical use.

Koen Dewaele
CEO, ADx NeuroSciences, Belgium

Precision antibodies for clinical use

ADx NeuroSciences develop state-of-the-art biomarker-assays to diagnose a wide variety of neurodegenerative diseases. Pharmaceutical companies rely on those assays to accelerate and improve the design of large clinical trials, and their assays therefore require highly validated, specific and sensitive antibodies that are suitable for routine commercial use.

Sourcing reliable antibodies with the correct performance characteristics is a major challenge in commercial assay development. ADx NeuroSciences chose Abcam as a valued partner in their assay development programmes due to Abcam's advanced antibody discovery capabilities and portfolio of existing affinity binders.