

IGY Life Sciences
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IgY antibodies—sustainable and efficacious therapeutics for human and animal health

IGY Life Sciences has optimized the sustainable generation of highly specific and efficacious egg-derived IgY antibodies for human and animal health. The company's pipeline includes marketed immune and sports health products, and lead compounds against COVID-19 and African swine fever.

IGY Life Sciences is a biotechnology company focused on the development, licensing and manufacture of novel immunoglobulin Y (IgY)-based products to address some of today's most pressing challenges in infectious and non-infectious diseases in both humans and animals. IgY antibodies are functional analogues of immunoglobulin G (IgG)—the most common type of antibody found in humans—produced in oviparous, i.e. egg-laying animals. With its newly designed 10,000 square foot good manufacturing practice (GMP)-certified facility, the company is rapidly becoming a global leader in the large-scale and environmentally friendly production of high-purity specific and non-specific IgY antibodies.

IGY Life Sciences' growing portfolio of antibody candidates in both human and animal health includes lead candidates against African swine fever and COVID-19. The company also has two IgY-based consumer health products for sports medicine and overall immune health on the market.

"We take an interdisciplinary approach to developing biologics, consumer health and animal health solutions to address a wide range of pressing needs for which we think an IgY-based solution could have the largest impact," said Terry Dyck, president and CEO of IGY Life Sciences. "Our ongoing work on COVID-19 exemplifies the ability of our clinical and operational teams to quickly develop new solutions while ensuring their safety, effectiveness, and scalability."

IGY Life Sciences is developing one of the first polyclonal antibodies for the treatment of COVID-19

The IgY promise

IgY, the most common type of immunoglobulin produced in birds, reptiles and amphibians, has a long history of being used in passive immunity therapeutic agents in humans and animals. Similarly to human IgG, IgY is produced at high concentrations in serum, accumulating to high concentrations in egg yolk, making it possible to extract large quantities of highly purified antibodies from chicken eggs.

Several characteristics make IgY well suited for human use: IgY does not induce specific resistance because it targets multiple antigens; IgY has greater

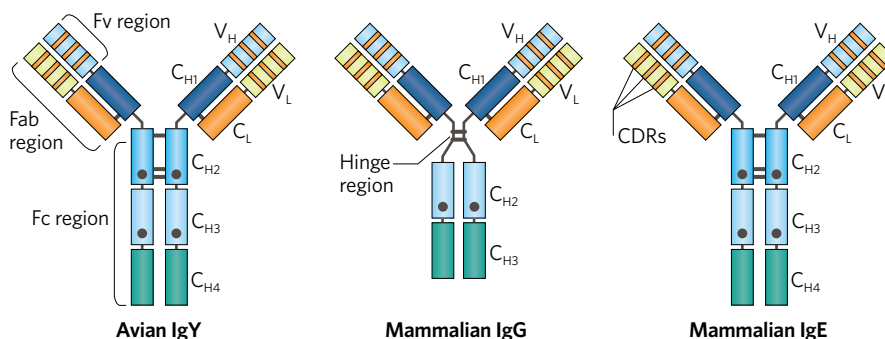


Fig. 1 | IGY Life Sciences develops novel immunoglobulin Y-based products to combat challenges in both human and animal health. Immunoglobulin Y (IgY) has an equivalent functional role to both mammalian IgG (center) and IgE (right). Similar to IgG, avian IgY mediates general protective immune responses and it also mediates the anaphylactic response typically associated with mammalian IgE. Image modified with permission from <https://www.drugtargetreview.com/article/33086/antibody-fragment-technology-and-avian-igy-antibodies-a-powerful-combination/>.

binding avidity to target antigens than mammalian IgGs; IgY directed against conserved mammalian proteins is easier to produce than IgG because of the evolutionary distance between mammals and birds; and IgY does not bind to mammalian Fc receptors or induce an IgE response, minimizing the risk of allergic reactions and administration-related inflammation (Fig. 1).

IGY Life Sciences' development process integrates clinical and operational teams to identify top-tier prospects with the highest potential impact in the marketplace. The company's advantage is its patented and proprietary MASON manufacturing process, which allows it to manufacture commercial-scale IgY antibodies at an industry-leading purity of up to 99%.

IgY against COVID-19

Joining the global race to find solutions to the ongoing SARS-CoV-2 pandemic, IGY Life Sciences is developing one of the first polyclonal antibodies for the treatment of COVID-19. IGY-110 is an IgY antibody that targets the spike proteins of the coronavirus and is suitable for vulnerable populations, the elderly and the immunocompromised, who are at highest risk from COVID-19. IGY-110 will be administered as a nasal spray and an enteric coated capsule. The intranasal route of administration will deliver the antibodies directly to a key site of coronavirus entry and infection.

According to Dyck, "using an IgY antibody in a nasal spray is novel, and since the nasal cavity is a

primary area of infection, this approach has strong merit. In pre-clinical testing now, we aim to be in phase 1 clinical testing by September 2020."

Partner of choice

IGY Life Sciences partners with health innovators as a leading contract manufacturer to produce their specific IgY antibodies, whether a nutraceutical or a biologic, to ready the products for regulatory approval. IGY Life Sciences has also built a substantial portfolio of antibody candidates at various stages of development for both human and animal health applications.

"IGY Life Sciences is ideally positioned to collaborate with strategic partners, academic institutions and industry leaders to deliver on our mission of bringing new medicines to patients," said Huan Nguyen, CSO of IGY Life Sciences. "Existing programs such as our COVID-19 therapeutic and our African swine fever biologic are but two examples of synergistic collaborations. We welcome opportunities and anticipate dynamic and productive conversations that will both initiate and launch future collaborations."

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