



# #COVID19

## 5 MUST-KNOW POINTS ON ANTIBODIES by xenothera

1

### THE NATURAL ANTIBODY RESPONSE IS POLYCLONAL

As a response to pathogenic viruses and bacteria, our immune system builds up polyclonal antibodies. It is composed of a myriad of molecules different from each other that together neutralize the invader.

2

### POLYCLONAL ANTIBODIES BIND TO SEVERAL EPITOPES

Drugs made of polyclonal antibodies eliminate pathogens through their binding to multiple targets called “epitopes”, corresponding to different parts of the pathogen. In contrast, drugs made of monoclonal antibodies target only one epitope.

3

### CHOOSE YOUR MODE OF ACTION: SINGLE OR MULTIPLE

Monoclonal antibodies have a defined mode of action. They are excellent to inhibit the interaction between target molecules and function as “molecular surgeons”. Polyclonal antibodies have the advantage to combine an array of complementary mechanisms of action: they also block molecular interactions, stimulate other elements of the immune system (called innate and adaptive immunity) and directly destroy their target. As an easy comparison, polyclonal antibodies are firemen entering the burning house through all doors and windows and using all available extinction techniques.

4

### POLYCLONAL OR MONOCLONAL, DEPENDING ON THE TARGET!

Monoclonal antibodies are powerful against well-defined and fixed targets. However, when comes a complex or mutating target (toxin, venom, bacteria, virus), they are not sufficient. In that case, polyclonal antibodies are better indicated and keep on targeting epitopes even though some of them change.

5

### BLOCKING OR DEFEATING THE VIRUS?

Monoclonal antibodies prevent entry of the virus into target cells by blocking access to the receptor. Polyclonal antibodies, in addition, are very good at directly destroying viral particles.

**In our fight against COVID-19, we built up a drug gathering the different ways antibodies naturally function and organized a large-scale production to maximize efficacy and to optimally fulfill patient's needs.**

XENOTHERA, a French biotech company, has developed an anti-COVID treatment based on a unique and patented technology for the production of polyclonal antibodies. Currently in clinical trials, XAV-19, intended for patients at the beginning of hospitalization, aims to stop the worsening of the disease and avoid in particular a transfer to intensive care.

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