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# Chicken Egg Yolk Antibodies (IgYs) block the binding of multiple SARS-CoV-2 spike protein variants to human ACE2

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## Abstract

The SARS-CoV-2 virus is still spreading worldwide, and there is an urgent need to effectively prevent and control this pandemic. This study evaluated the potential efficacy of Egg Yolk Antibodies (IgY) as a neutralizing agent against the SARS-CoV-2. We investigated the neutralizing effect of anti-spike-S1 IgYs on the SARS-CoV-2 pseudovirus, as well as its inhibitory effect on the binding of the coronavirus spike protein mutants to human ACE2. Our results show that the anti-Spike-S1 IgYs showed significant neutralizing potency against SARS-CoV-2 pseudovirus, various spike protein mutants, and even SARS-CoV in vitro. It might be a feasible tool for the prevention and control of ongoing COVID-19.

**Keywords:** Chicken Egg Yolk Antibodies; IgY; Neutralizing agent; SARS-CoV-2; Spike protein variants.



## Figures

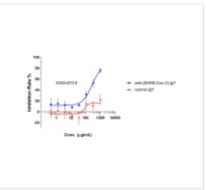

**Fig. 1** Luminescence inhibition rate curve of...

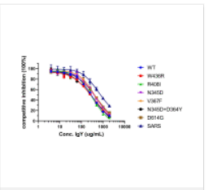

**Fig. 2** Competitive inhibition of the eight...

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- Egg Yolk / metabolism*
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- SARS-CoV-2 / genetics
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- Spike Glycoprotein, Coronavirus / genetics
- Spike Glycoprotein, Coronavirus / metabolism*

## Substances

- Antibodies, Neutralizing
- IgY
- Immunoglobulins
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- spike glycoprotein, SARS-CoV
- ACE2 protein, human
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