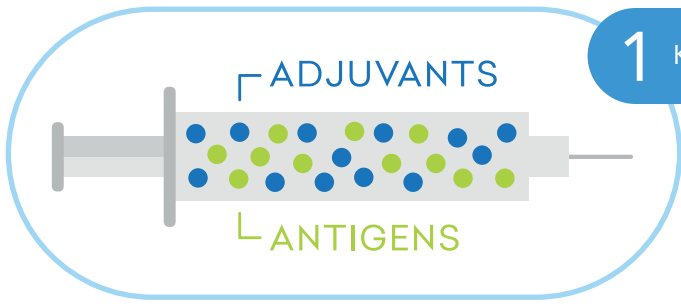


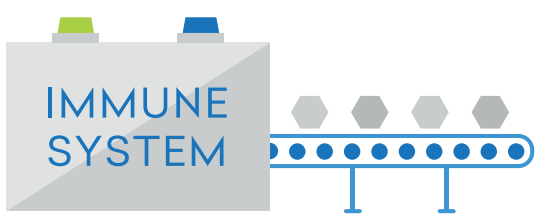
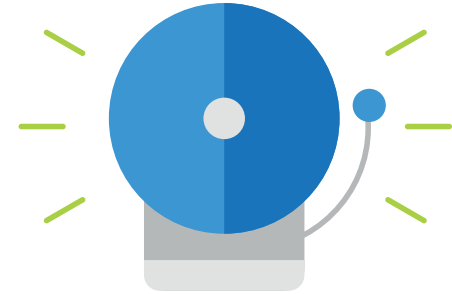
THE IMPORTANT ROLE OF VACCINE ADJUVANTS



1 Killed vaccines generally contain two components: antigens and adjuvants.

2

In autogenous vaccines, antigens are viruses or bacteria that have been intentionally inactivated so the vaccines can't actually cause disease. But the antigens do set off an alarm, alerting the immune system of foreign invaders.

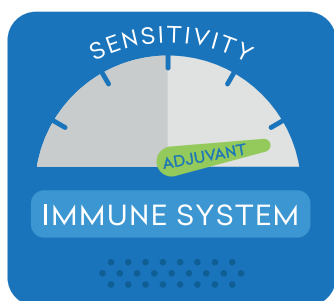


3

The immune system responds by making antibodies and cells that can recognize these particular organisms in the future.

4

The second vaccine component is an adjuvant, which helps amplify the alarm to the immune system.

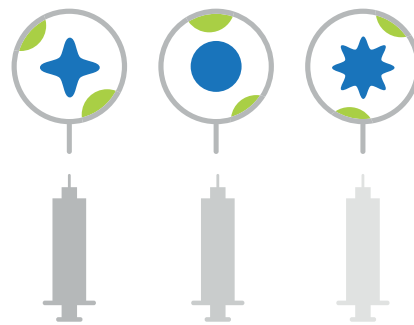


5

Although the adjuvant doesn't cause an immune response by itself, it plays a key role in helping the immune system be more sensitive or responsive to antigens.

6

Different adjuvants, with different modes of action, can be added to a vaccine to boost antigen performance in a number of ways.

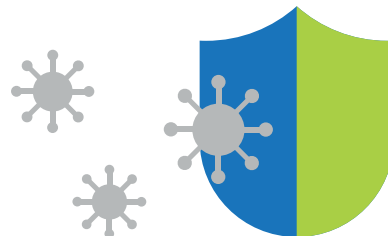


7

Some may help spark an earlier onset of immunity or a longer duration of immunity. Others can help create a stronger immune response or even a specific type of immune response.

8

Together, antigens and adjuvants work to help the immune system be better prepared to fight live pathogens when they're encountered in the future.



For help selecting the optimal adjuvant for your herd's health challenges, talk to your Boehringer Ingelheim representative or visit NewportLabs.com.