Vaccine Adjuvants VAC 20 HA
High Adsorption Grade for Animal Health

SPI Pharma has extensive experience and knowledge of aluminum hydroxide chemistry, with more than 70 years for antacid forms and more than 20 years for VAC gels as a vaccine adjuvant. Continuing its focus on innovation, we have developed a high protein adsorption grade of vaccine adjuvant. VAC 20 HA has more than 50% more adsorption capacity than standard VAC, reducing redness and swelling at the injection site.

The vaccine adjuvant manufacturing process used by SPI Pharma has been developed and optimized to include a gel, VAC 20 HA, that offers higher protein adsorption capacity with a finer particle size (average particle size 5 μm) and a narrower pH range (6.0-7.0) These characteristics make VAC 20 HA a high performance adjuvant compared to other regular adjuvants.

Our VAC 20 HA grade has a 2% Assay Al₃O₃. SPI can customize the assay level with this improved adsorption capacity. This grade is validated at our facility in France, which is FDA and ANSM approved.

Aluminium Hydroxide Adjuvants surface charge is pH-dependent.

Adsorbent properties are related to surface area and surface groups, the hydroxyl groups can accept a proton: positive site

[Diagram of positively charged hydroxyl groups]

donate a proton: negative site

[Diagram of negatively charged hydroxyl groups]

Figure 1: VAC 20 HA Has 50% More Adsorption Capacity Than the Standard VAC 20 Grade

Figure 2: Schematic of the structure of the gel. When the surface of the aluminum oxyhydroxide is positive, it attracts negatively charged antigens. Adsorption capacity is determined by surface area and surface charge from the hydroxyl groups.
Figure 3: VAC 20 HA has a finer particle size that reduces inflammation at the point of injection. The finer PSD means more surface area for more adsorption capacity.