

Product Specification Sheet

QS-21 (Quillaja saponaria), Vaccine adjuvant, (EU GMP grade) >95%;

<input type="checkbox"/> Cat. # AV-4010-1	QS-21 (Quillaja saponaria), Vaccine adjuvant, (EU GMP grade) >95%	SIZE: 1 mg
<input type="checkbox"/> Cat. # AV-4010-5	QS-21 (Quillaja saponaria), Vaccine adjuvant, (EU GMP grade) >95%	SIZE: 5 mg

Adjuvants augment the effects of a vaccine by stimulating the immune system to respond to the vaccine more vigorously, and thus providing increased immunity to a particular disease. Adjuvants accomplish this task by mimicking specific sets of evolutionarily conserved molecules, so called PAMPs, which include liposomes, lipopolysaccharide (**LPS**), molecular cages for antigen, components of bacterial cell walls (e.g., **flagellins**), and endocytosed nucleic acids such as double-stranded RNA (**dsRNA**), single-stranded DNA (**ssDNA**), and unmethylated CpG dinucleotide-containing DNA (**ODNs**). Natural proteins such as **ovalbumin** or OVA-peptides and key hole limpet hemocyanins (**KLH**) are also being explored not only serve as carrier protein but also as adjuvants. Because immune systems have evolved to recognize these specific antigenic moieties, the presence of an adjuvant in conjunction with the vaccine can greatly increase the innate immune response to the antigen by augmenting the activities of dendritic cells (DCs), lymphocytes, and macrophages by mimicking a natural infection. Furthermore, because adjuvants are attenuated beyond any function of virulence, they pose little or no independent threat to a host organism.

For human vaccines, aluminum hydroxide (Alum) based adjuvants (Aluminum hydroxide or Alhydrogel; Aluminium phosphate or Adjuvphos) are the only **FDA-approved adjuvants**. Vaccine components that are formulated in Alum are called "Adsorbed Vaccines". The effectiveness of each salt as an adjuvant depends on the characteristics of the specific vaccine and how the manufacturer prepares the vaccine

Not all vaccines contain Alum because an adjuvant may not have been needed, was not expected to increase the desired immune response, or was going to cause an imbalance in the immune response. For example, **inactivated Polio Virus (IPV/IPOL)** vaccine, measles, mumps and rubella vaccine (**MMR/MMRI/MMRV**), **Varicella or chickenpox vaccine (Varivax/Proquad/MMRV)**, **Meningococcal conjugate (MCV4/Menomune/Menactra)** vaccine, and **influenza vaccines (Fluzone/Flulaval/Flumist/Fluivirin etc)** do not contain aluminum salts.

Product Information

QS-21 is a purified plant extract that enhances the ability of the immune system to respond to vaccine antigens. It is derived from the Soap bark tree (Quillaja saponaria), which is native to the country of Chile. The extract contains water soluble triterpene glucoside compounds, which are members of a family of plant-based compounds called saponins. QS-21 Stimulon activates key components of the immune system including cellular (T cell mediated) and humoral (antibody mediated) immunity. Both of these components of the immune system are often necessary to enable the body to heal or protect itself. Stimulon has been studied in over 120 clinical trials involving approximately 50,000 patients during nearly 15 years of development. QS-21 Stimulon is currently a key adjuvant component in 20 clinical development programs of Agenus, GSK and J&J.

Form & Storage

Supplied as powder or in PBS, pH 7.4 (5 mg/ml or or see lot sp. conc on the vial. Store solution at -20oC. Reconstitute powder in water and sterile filter if necessary.

Storage and Stability: Shipped at room temperature if powder and in cold paks for solution. Stored at -20oC. Long term storage at -20 C for up to 6 months. Avoid repeated freeze thaw cycles.

Recommended Dosage

Mice: 10-20 ug
G. pigs/Rat: 25-50 ug
Rabbits/Monkey: 50-100 ug.

Notes: The adjuvant does is also dictated by the nature of antigen so it is possible to test different doses.

References: Vogel and Powell, (1995) Pharmaceutical biotechnology. 6; 141-228. Ragupathi G (2011) Expert Rev Vaccines. 10(4):463-70.



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