

# AQUAVAC<sup>®</sup> STREP SA1



## Product Detailer

### What is AQUAVAC Strep Sa1 and what does it do?

AQUAVAC Strep Sa1 is an oil adjuvanted, intraperitoneally injected vaccine for use in fish. The vaccine helps protect fish against *Streptococcus* (*S.*) *agalactiae* (Biotype 1) infections.

### What is the target species?

AQUAVAC Strep Sa1 is primarily designed for use in tilapia (*Oreochromis* spp.). The vaccine may also be used in other fish species; if so, its use should be undertaken with care and it is advisable to test the vaccine on a small number of fish prior to mass vaccination.

### What is the target disease?

With the increasing intensification of tilapia culture it has become apparent that tilapia are susceptible to a variety of bacterial and viral infections. MSD Animal Health has undertaken extensive sampling from the most important tilapia producing regions to gain a greater understanding of diseases affecting tilapia. *Streptococcus* was the most prevalent disease identified. Of note, two specific strains of *Streptococcus* were identified: *S. agalactiae* and *S. iniae*. Of these two strains *S. agalactiae* is the most economically damaging production disease of tilapia causing widespread mortality and morbidity in larger fish.

There are two types of *S. agalactiae*, Biotype 1 and Biotype 2. The identification of Biotype 1 strains are currently limited to several key producing regions in Asia, namely Thailand, Malaysia, China, Vietnam, and the Philippines.

AQUAVAC Strep Sa1 protects fish against Biotype 1.

Importantly, the vaccines do not cross protect against both biotypes.

Contact your MSD Animal Health representative for more information on AQUAVAC Strep Sa, our *S. agalactiae* Biotype 2 vaccine.

### Diagnosing *S. agalactiae* Biotype 1

Since the vaccine has strain and biotype specific protection, it is imperative to confirm the *S. agalactiae* biotype present on your farm before proceeding with a vaccination program.

Diagnosis can be done by PCR, microbiological, and serological techniques. Consult your MSD Animal Health representative, or fish health professional, about our diagnostic program.

**\*Please refer to the Warm Water Vaccination Manual for more details. Contact your MSD Animal Health representative to obtain a copy.**

### How do I administer AQUAVAC Strep Sa1\*?

Vaccines are a preventative measure, and care should be taken to vaccinate fish before they are infected.

1. The vaccine should be stored between 2-8°C in a dark place.
2. AQUAVAC Strep Sa1 can be used in fish weighing 10 g and over.
3. Fish should be anaesthetised prior to the vaccination.
4. Each fish should receive 1 dose of vaccine, which should be injected (0.05 ml) intraperitoneally.
5. Food should be withheld for 1 day prior to vaccination.



STREP CONTROL



YOUR TILAPIA HEALTH



**MSD**  
Animal Health



## How safe is AQUAVAC Strep Sa1\*?

Injection vaccination of fish is a tried, trusted, and safe method of vaccinating fish. To ensure minimal to no post-vaccination mortality, the fish must be healthy and the anaesthetisation and injection process must be done correctly.

Depending on the duration of culture, small vaccine remnants will remain in the gut cavity. There is no negative effect on fillet quality.

AQUAVAC Strep Sa1 has a zero withdrawal period; therefore fish can be vaccinated at any time point before harvest. Fish vaccinated with AQUAVAC Strep Sa1 are safe for human consumption.

## How effective is AQUAVAC Strep Sa1?

### Laboratory Trial

In a laboratory trial, where tilapia were challenged with *S. agalactiae* biotype 1, full onset of immunity was demonstrated one week after vaccination with a relative percent survival (RPS) of over 92%.<sup>1</sup>

Protection was demonstrated to last for at least 12 weeks.

### Field Trial

A large-scale field trial was undertaken to test the vaccine in an environment with chronic challenge pressure from *S. agalactiae* biotype 1. The following results were observed:

A 17%<sup>1</sup> net increase in survival in vaccinated groups versus controls. A total increase in biomass of 11.2%.<sup>1</sup>

The Feed Conversion Ratio (FCR) was also significantly improved by vaccination – with a 9% improvement throughout the growth period, thereby reducing the cost of goods sold in terms of expenditure on feed per kg production of fish.<sup>1</sup>

## How do I maximise the performance of the vaccine in my farm?

For the best results when vaccinating:

- a) Stress should be minimised in the period before and for two weeks after vaccination to allow for optimal immune response to the vaccine.
- b) Aim to vaccinate 100% of any given population of fish to help reduce challenge pressure through herd immunity. The objective is to reduce the number of fish dying from, and infected with, the disease so as to reduce the bacterial shedding into the production system. The lower the challenge pressure, the greater the potential of the population to resist infection.

## How do I measure the performance of AQUAVAC Strep Sa1?

Vaccination, if done correctly, will minimise the threat of this devastating production disease. For specific evaluations, it is best to vaccinate all of your population or batch and compare against historical performance data, of which good benchmarks will be: survival, FCR, biomass production volumes, and cost of goods sold.

Please consult your local MSD representative for support on running a vaccination program.



### Reference:

1. MSD Animal Health. Company data.