

ONLY 1 SHOT. ONLY 1 ML.

PneumoSTAR™ SIV is the 1 and only

PneumoSTAR SIV is all you need

When it comes to effective, convenient protection against swine influenza virus, PneumoSTAR SIV from Novartis is the *one and only*.

- SIV can limit growth, performance, profits.
- SIV can lead to upper respiratory complex.
- SIV vaccination can be an inconvenient, two-dose headache.
- There's only one vaccine that provides protection with just one dose.
- There's only one vaccine that does it with just one mL.
- There's only one choice for the best protection.

PneumoSTAR SIV meets the challenge

How effective is PneumoSTAR SIV? Here are the results of an experimental challenge conducted on 10-week-old pigs.

- For this experiment, test pigs were vaccinated with a single 1-mL dose of PneumoSTAR SIV, while a control group was left unvaccinated.
- To detect serum antibodies, HI (hemagglutination inhibition) titers for two SIV strains were taken for both the vaccinates and the control group prior to challenge.

	H1N1 HI titer	H3N2 HI titer
Vaccinates	96% positive	100% positive
Controls	0% positive	0% positive

- At seven weeks post-vaccination, vaccinates and controls were challenged with either a heterologous H1N1 SIV strain or heterologous H3N2 SIV strain. Five days post-challenge, percent lung damage was determined.

	H1N1 challenge	H3N2 challenge
Vaccinates	4.4% lung lesions	5.0% lung lesions
Controls	21.4% lung lesions	31.7% lung lesions



PneumoSTAR SIV
is the one-shot,
one-dose protection
your herd needs.



Don't just treat complex symptoms

Go for simple one-shot vaccination

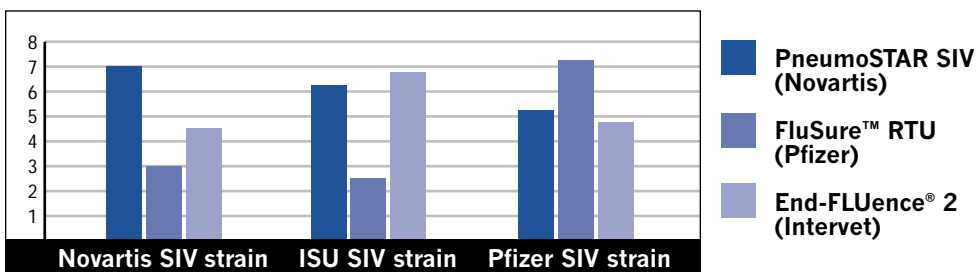
An effective vaccination program saves time, saves treatment and saves profits. And Novartis vaccine expertise makes your job easier with a range of insights about vaccine timing and other options:

- Serology testing helps optimize vaccine efficacy.
- Custom products are an option for unique challenges.
- Novartis experts offer comprehensive knowledge and services.

Broad cross-reactivity from strain to strain

Because a single operation can easily have various strains of SIV, broad cross-reactivity means more effective immunity for your herd. In the following vaccine comparison, pigs were vaccinated with two doses of a commercial vaccine.

After vaccination, sera were collected from all test pigs, and HINI HI titers were determined using the Novartis vaccine strain, the Iowa State University (ISU) standard strain and the Pfizer strain:



**Consistent.
Comprehensive.
Convenient.**

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The results show PneumoSTAR SIV is consistently reactive to each strain. That broad cross-reactivity among various SIV strains is a big performance advantage.

Newly formulated adjuvant means more complete immune response

New from Novartis, ImmunSTAR™ adjuvant provides one-shot immunity:

- Water-in-oil-in-water system
- Biodegradable oil
- Antigen encapsulation + surface antigen
- More complete immune response

 **NOVARTIS**

www.livestock.novartis.com