

FluSure XP®

Description

For the vaccination of healthy swine, including pregnant sows and gilts, 3 weeks of age or older as an **aid in preventing respiratory disease** caused by swine influenza virus (SIV) subtypes H1N1, H1N2 and H3N2.

Advantages

- FluSure XP® is the **only** commercial vaccine on the market to contain an H1N2 subtype. FluSure XP now contains two strains of H1N1, one strain of H1N2 and one strain of H3N2.
- Challenge studies have demonstrated that FluSure XP helps provide cross-protection against five clusters or sub-clusters of H1 viruses plus H3N2.¹⁻⁷
 - Alpha H1N1
 - Beta H1N1
 - Gamma H1N1
 - Delta 1 H1N2
 - Delta 2 H1N1
 - Cluster IV H3N2
- Researchers recently identified the sub-clusters Delta 1 and Delta 2 in the Delta H1 cluster.⁸⁻¹¹ That's why Pfizer Animal Health updated FluSure XP in 2011 to include a Delta 1 H1N2 strain.
- A Delta 1 H1N2 challenge study was conducted to evaluate the efficacy of the updated FluSure XP formulation.⁵
 - The study demonstrated FluSure XP helped reduce clinical signs of flu, viral shedding in nasal swabs, viral isolations from lung lavage and lung lesions.
 - FluSure XP stimulates a HI antibody response to all strains contained in the vaccine, including the new H1N2 strain. This HI antibody response indicates that the updated FluSure XP vaccine should help protect against the important flu strains circulating in swine herds today.



- FluSure XP is safe and approved for use in pregnant sows and gilts.¹²⁻¹⁴
- FluSure XP is safe and approved for use in growing pigs.¹⁵⁻¹⁷
- When used with FluSure® Pandemic, FluSure XP as part of the FluSure XP Defense System™ helps afford protection against 9 out of 10 of the most current flu strains.¹⁸

Indications

For the vaccination of healthy swine, including pregnant sows and gilts, 3 weeks of age or older as an aid in preventing respiratory disease caused by SIV subtypes H1N1, H1N2 and H3N2. This product is a freeze-dried preparation containing the following isolates: A/Swine/North Carolina/031/05 (H1N1), A/Swine/Missouri/069/05 (H3N2), A/Swine/Iowa/110600/00 (H1N1) and A/Swine/Oklahoma/0726H/2008 (H1N2). A sterile diluent containing Amphigen® is used to rehydrate the freeze-dried vaccine. A duration of immunity of at least 10 weeks, as demonstrated by a significant reduction in lung lesions, has been established against SIV H3N2.¹⁹

Packaging

FluSure XP is available in the following pack sizes:

- 50 doses – SKU # 5275
- 250 doses – SKU # 5276

FluSure XP®

FluSure XP is also available in the following combinations:

- FluSure XP/FarrowSure® GOLD
 - 50 doses – SKU # 5272
 - 250 doses – SKU # 5273
- FluSure XP/FarrowSure GOLD B
 - 50 doses – SKU # 5274
- FluSure XP/ER Bac® Plus
 - 50 doses – SKU # 5277
- FluSure XP/RespiSure®
 - 50 doses – SKU # 5278
- FluSure XP/RespiSure-ONE
 - 50 doses – SKU # 5279
- FluSure XP/RespiSure-ONE/ER Bac Plus
 - 50 doses – SKU # 5280

Offers the Advantages of the Proprietary Adjuvant, Amphigen®

Amphigen, the adjuvant found in FluSure XP, helps provide an excellent humoral and cell-mediated immune response, using the animal's natural defense system to rapidly fight disease.²⁰ This adjuvant provides a high degree of safety, ease of use and excellent syringeability.

Dosage and Administration

1. General Directions: Vaccination of all pigs on the premises is recommended to enhance the herd immunity. Shake diluent before use. Aseptically rehydrate the freeze-dried vaccine with the accompanying adjuvant-containing sterile diluent, shake well and administer 2 mL intramuscularly.
2. Primary Vaccination: Healthy swine 3 weeks of age or older should receive two 2-mL doses administered intramuscularly approximately 3 weeks apart. In young pigs, vaccinate after maternally derived antibodies to SIV have declined.
3. Good animal husbandry and herd health management practices should be employed.

Precautions

Store at 2°-7°C. Prolonged exposure to higher temperature may adversely affect the potency of the vaccine. Do not freeze.

Use entire contents when first opened or rehydrated.

Sterilized syringes and needles should be used to administer this vaccine.

Do not administer within 21 days before slaughter.

Contains gentamicin as a preservative.

As with many vaccines, anaphylaxis may occur after use. Initial antidote of epinephrine is recommended and should be followed with appropriate supportive therapy.

Contact Information

Technical inquiries should be directed to Pfizer Animal Health Veterinary Medical Investigation and Product Support: (800) 366-5288 (USA). For additional information, contact your local Pfizer Animal Health representative.

1. Kitikoon P, Nilubol D, Vincent A, Yu S, Erickson B, Janke B, Hoover T, Sornsen S, Thacker E. Immune response and effect of maternal antibody interference on vaccination with a bivalent swine influenza vaccine. *Proceedings of the 18th IPVS Congress*. Hamburg, Germany. 2004;1:386.
2. Gramer M. Epidemiology of swine influenza and implications of reassortment. 2004 Allen D. Leman Swine Conference. 2004; p69-73.
3. Data on file, Study Report No. 2124C-60-00301-060, Pfizer Inc.
4. Rapp-Gabrielson V, Wicklund E, Ficken M. Efficacy of FluSure against challenge with heterologous reassortant swine influenza H1N1 viruses. 2005 Allen D. Leman Conference 2005;32 (Supplement):14.
5. Data on file, Study Report No. 3127R-60-10-917, Pfizer Inc.
6. Data on file, Study Report No. 3121R-60-07-538, Pfizer Inc.
7. Data on file, Study Report No. 3121R-60-07-529, Pfizer Inc.
8. Vincent A, Ma W, Lager K, Gramer M, Richt J, Janke B. 2009. Characterization of a newly emerged genetic cluster of H1N1 and H1N2 swine influenza virus in the United States. *Virus Genes*. 39:176-185.
9. Vincent A, Harland M, Lorusso A, et al. 2010. Genetic and antigenic characterization of 2008 swine influenza viruses from the United States. *Proceed. 21st IPVS*, p.259.
10. Rapp-Gabrielson V, Nitzel G, Yonkers T, et al. 2010. Antigenic and genetic variations of endemic human-like (delta cluster) swine influenza H1N1 and H1N2 field isolates from the United States. *Proceed. 41st AASV*, p 377-78.
11. Rapp-Gabrielson V, Evan J, Czach J, et al. 2010. Antigenic and genetic diversity of delta cluster swine influenza virus H1N1 and H1N2 field isolates from the United States. *Proceed 21st IPVS*, p.258.
12. Data on file, Study Report No. 2424H-60-01-047, Pfizer Inc.
13. Data on file, Study Report No. 2424H-60-01-048, Pfizer Inc.
14. Data on file, Study Report No. 2424H-60-01-049, Pfizer Inc.
15. Data on file, Study Report No. 2424H-60-01-039, Pfizer Inc.
16. Data on file, Study Report No. 2424H-60-01-040, Pfizer Inc.
17. Data on file, Study Report No. 2424H-60-01-041, Pfizer Inc.
18. Genetic comparison of viruses characterized by the University of Minnesota Veterinary Diagnostic Laboratory in the last three years demonstrated that 9 out of 10 currently circulating U.S. strains were at least 90% homologous to FluSure XP and/or FluSure Pandemic strains.
19. Data on file, Study Report No. 2124H-60-02-019, Pfizer Inc.
20. Thacker E, Thacker B, Kuln M, Hawkins P, Waters W. Evaluation of local and systemic immune responses induced by intramuscular injection of a *Mycoplasma hyopneumoniae* bacterin to pigs. *Am J Vet Res* 2000;61(11):1384-1389.



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