



## 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 (IAV-S) 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 one strain of H1N1, one strain of H1N2, and two strains of H3N2.<sup>1</sup>
- Serologic and challenge studies have demonstrated that FluSure XP helps provide cross-protections against five clusters or sub-clusters of H1 viruses plus H3N2.<sup>2-8</sup>
  - Alpha H1N1
  - Beta H1N1
  - Gamma H1N1
  - Delta-1 H1N2
  - H3N2 Cluster IV-A
  - H3N2 Cluster IV-B
- H3N2 Clusters IV-A and IV-B have increased in prevalence, highlighting the need for updated protection.<sup>9</sup>
- In a serological equivalence study accepted by the USDA, pigs vaccinated with new FluSure XP demonstrated a similar response to the H3N2 Cluster IV-B fraction when compared with the older H3N2 fraction.<sup>7</sup>
- A challenge study was performed to evaluate the efficacy of the updated FluSure XP formulation. A heterologous Cluster IV-A H3N2 challenge produced gross lung lesions in 100% of controls with back-transformed LS mean of 16.15%. Vaccinated pigs had<sup>8</sup>:
  - A significant reduction in lung lesions at necropsy ( $P \leq 0.0001$ ).
  - A lower percentage of pigs shedding virus, as demonstrated by virus titers in nasal swabs on all days post-challenge ( $P \leq 0.0001$ ).
  - No virus isolated from BAL fluid of vaccinated pigs at necropsy compared to 100% of controls ( $P \leq 0.0001$ ).
  - Lower mean rectal temperatures ( $P \leq 0.0002$ ).
  - Although not statistically analyzed, vaccinates had fewer clinical signs.

Under the conditions of this study, FluSure XP helped protect pigs against challenge with a virus representing the most prevalent H3N2 cluster currently circulating in US swine.<sup>9</sup>

- FluSure XP is safe and approved for use in pregnant sows and gilts.<sup>10-12</sup>
- FluSure XP is safe and approved for use in growing pigs.<sup>13-15</sup>

**FluSure XP is the only commercial swine vaccine that helps provide cross-protection against the most prevalent influenza strains impacting swine farms today, backed by the ongoing commitment of Zoetis to actively monitor and combat new strains.<sup>9</sup>**



## 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 IAV-S H1N1, H1N2, and H3N2. This product is a freeze-dried preparation containing the following isolates: A/Swine/Iowa/110600/2000 (H1N1); A/Swine/Oklahoma/0726H/2008 (H1N2); A/Swine/North Carolina/394/2012 (H3N2); and A/Swine/Minnesota/872/2012 (H3N2). A sterile diluent containing Amphigen® is used to rehydrate the freeze-dried vaccine.



## PACKAGING

**FluSure XP is available in the following pack sizes and combinations:**

Dosage Quantity	SKU #
FluSure XP 50 doses	10015321
FluSure XP 250 doses	10015323
FluSure XP/FarrowSure® GOLD 50 doses	10015316
FluSure XP/FarrowSure® GOLD 250 doses	10015319
FluSure XP/FarrowSure® GOLD B 50 doses	10015320
FluSure XP/RespiSure® 50 doses	10015326
FluSure XP/RespiSure-ONE® 50 doses	10015328
FluSure XP/ER Bac® Plus 50 doses	10015325
FluSure XP/RespiSure-ONE®/ER Bac® Plus 50 doses	10015330

## 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.<sup>16</sup>

This adjuvant provides a high degree of safety, ease of use, and excellent syringeability.

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 three weeks apart. In young pigs, vaccinate after maternally derived antibodies to IAV-S have declined. Semi-annual revaccination with a single dose is recommended.
3. Good animal husbandry and herd health management practices should be employed.

## PRECAUTIONS

Store at 2°C to 7°C. Prolonged exposure to higher temperature may adversely affect the efficacy 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 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 Zoetis LLC. VMIPS: (800) 366-5288 (USA).

For additional information, contact your local Zoetis representative.

Take Time



Observe Label Directions

**References:** 1. Sandbulte MR, Spickler AR, Zaabel PK, Roth JA. Optimal use of vaccines for control of influenza A virus in swine. *Vaccines* (Basel). 2015;3(1):22-73. 2. Kitikoon P, Thacker E, Nilubol D, et al. Immune response and effect of maternal antibody interference on vaccination with a bivalent swine influenza virus vaccine. *American Association of Swine Veterinarians*. 2005;363-365. 3. Gramer M, Rossow K. Epidemiology of swine influenza and implications of reassortment. *Proceedings 2004 Allen D. Leman Swine Conference*. p69-73. 4. Data on file, Study Report No. 2124H-60-01-060, Zoetis LLC. 5. Rapp-Gabrielson V, Wicklund E, Ficken M. Efficacy of FluSure against challenge with heterologous reassortant swine influenza H1N1 viruses. *2005 Allen D. Leman Swine Conference*. 32(Supplement):14. 6. Data on file, Study Report No. 3127R-60-10-917, Zoetis LLC. 7. Data on file, Study Report No. B827R-US-13-156, Zoetis LLC. 8. Data on file, Study Report No. B820R-US-14-436, Zoetis LLC. 9. Veterinary Services, Animal and Plant Health Inspection Service, United States Department of Agriculture. Influenza A virus in swine surveillance: fiscal year 2015 quarterly report. Published February 2016. [https://www.aphis.usda.gov/animal\\_health/animal\\_dis\\_spec/swine/downloads/fy2015quarter4swinereport.pdf](https://www.aphis.usda.gov/animal_health/animal_dis_spec/swine/downloads/fy2015quarter4swinereport.pdf). Accessed September 25, 2016. 10. Data on file, Study Report No. 2424H-60-01-047, Zoetis LLC. 11. Data on file, Study Report No. 2424H-60-01-048, Zoetis LLC. 12. Data on file, Study Report No. 2424H-60-01-049, Zoetis LLC. 13. Data on file, Study Report No. 2424H-60-01-039, Zoetis LLC. 14. Data on file, Study Report No. 2424H-60-01-040, Zoetis LLC. 15. Data on file, Study Report No. 2424H-60-01-041, Zoetis LLC. 16. Thacker EL, Thacker B, Kuhn 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.