

For the use of a Registered Medical Practitioner or a Hospital or Laboratory
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Inactivated Influenza Vaccine (Split Virion) I.P.

VAXIGRIP

Suspension for injection in a prefilled syringe

NH 2025-2026

1. GENERIC NAME

Inactivated Influenza Vaccine (Split Virion) I.P.

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each dose of 0.5ml contains-

A/Victoria/4897/2022 (H1N1) pdm09-like strain *.....15mcg hemagglutinin

A/Croatia/10136RV/2023 (H3N2)-like strain*.....15mcg hemagglutinin

B/Austria/1359417/2021(B/Victoria lineage)-like strain*.....15mcg hemagglutinin

Phosphate buffered saline (PBS) solution..... q.s.

*propagated on hens eggs

Recommended composition of influenza virus vaccines for use in the 2025-2026 Northern Hemisphere influenza season.

For the full list of excipients, see Section 8.

Vaxigrip may contain traces of eggs, such as ovalbumin, and of neomycin, formaldehyde and octoxinol- 9, which are used during the manufacturing process (see Section 4.3).

3. DOSAGE FORM AND STRENGTH

Trivalent suspension for injection in a pre-filled syringe

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

Prophylaxis of influenza.

- Active immunisation of adults, including pregnant women, and children from 6 months of age and older.
- Passive protection of infant(s) from birth to less than 6 months of age following vaccination of pregnant women.

The use of VAXIGRIP should be based on official recommendations.

4.2 Posology and Method of administration

Posology

Adults: one dose of 0.5 ml.

Paediatric population

- Children from 6 months to 17 years of age: one dose of 0.5 mL.

For children less than 9 years of age who have not previously been vaccinated, a second dose of 0.5 ml should be given after an interval of at least 4 weeks.

- Infants less than 6 months of age: the safety and efficacy of Vaxigrip administration (active immunisation) have not been established. No data are available.

Regarding passive protection: one 0.5 mL dose given to pregnant women may protect infants from birth to close to 6 months of age. (see Section 4.4, 4.6 and 5.1).

Method of administration

The preferred route of administration for this vaccine is intramuscular although it can also be given subcutaneously.

The preferred sites for intramuscular injection are the anterolateral aspect of the thigh (or the deltoid muscle if muscle mass is adequate) in children 6 months through 35 months of age, or the deltoid muscle in children from 36 months of age and adults.

Precautions to be taken before handling or administering the medicinal product

For instructions on preparation of the medicinal product before administration, see section 8.4

4.3 Contraindications

Hypersensitivity to the active substances, to any of the excipients listed in Section 8 or to any component that may be present as traces such as eggs (ovalbumin, chicken proteins), neomycin, formaldehyde and octoxinol-9.

4.4 Special warnings and precautions for use

Traceability

In order to improve the traceability of biological medicinal products, the name and the batch number of the administered product should be clearly recorded.

Hypersensitivity

As with all injectable vaccines, appropriate medical treatment and supervision should always be readily available in case of an anaphylactic event following the administration of the vaccine.

Concurrent illness:

Vaccination should be postponed in patients with acute febrile illness until the fever is resolved.

Precautions for use:

Vaxigrip should under no circumstances be administered intravascularly.

Thrombocytopenia and coagulation disorders:

As with other vaccines administered intramuscularly, the vaccine should be administered with caution to subjects with thrombocytopenia or a bleeding disorder since bleeding may occur following an intramuscular administration to these subjects.

Syncope:

Syncope (fainting) can occur following, or even before, any vaccination as a psychogenic response to the needle injection. Procedures should be in place to prevent injury from fainting and manage syncopal reactions.

Protection:

Vaxigrip is intended to provide protection against those strains of influenza virus from which the vaccine is prepared.

As with any vaccine, vaccination with Vaxigrip may not protect all vaccinees.

Regarding passive protection, not all infants less than 6 months of age born to women vaccinated during pregnancy will be protected (see Section 5.1).

Immunodeficiency:

Antibody response in patients with congenital or acquired immunodeficiency may be insufficient.

Potassium and sodium content:

This medicinal product contains less than 1 mmol (39 mg) of potassium and less than (23 mg) of sodium per dose, i.e. essentially 'potassium-free' and 'sodium-free'.

4.5 Drug Interactions

Vaxigrip can be given at the same time as other vaccines if needed. Data showing that VAXIGRIP can be administered concomitantly with other vaccines are available for the following vaccines: pneumococcal polysaccharide vaccine, tetanus, diphtheria, pertussis and polio vaccine (DTaP/IPV, Repevax), and shingles vaccine. If VAXIGRIP is given at the same time as other vaccines, separate injection sites and separate syringes should be used.

The immunological response may be diminished if the patient is undergoing immunosuppressant treatment.

4.6 Use in Special populations**Pregnancy**

Pregnant women are at high risk of influenza complications, including premature labour and delivery, hospitalization, and death: pregnant women should receive an influenza vaccine.

Vaxigrip can be used in all stages of pregnancy.

More data are available on safety of inactivated influenza vaccines for the second and third trimesters than for with the first trimester. Data from worldwide use of inactivated influenza vaccines, including Vaxigrip and Vaxigrip Tetra (quadrivalent inactivated influenza vaccine), do not indicate any adverse foetal and maternal outcomes attributable to the vaccine.

This is consistent with results observed in one clinical study where Vaxigrip and Vaxigrip Tetra were administered in pregnant women during the second or third trimester (116 exposed pregnancies and 119 live births for Vaxigrip, 230 exposed pregnancies and 231 live births for Vaxigrip Tetra).

Data from four clinical studies with Vaxigrip administered in pregnant women during the second or third trimester (more than 5,000 exposed pregnancies and more than 5,000 live births followed up to approximately 6 months post-partum) did not indicate any adverse foetal, newborn, infant and maternal outcomes attributable to the vaccine.

In clinical studies conducted in South Africa and Nepal, there were no significant differences between the Vaxigrip and placebo groups with regards to foetal, newborn, infant and maternal outcomes (including miscarriage, stillbirth, premature birth, low birth weight).

In a study conducted in Mali, there were no significant differences between the Vaxigrip and control vaccine (quadrivalent meningococcal conjugate vaccine) groups with regards to

prematurity rate, stillbirth rate and low birth weight/small for gestational age rate.

For additional information, see Sections 4.8 and 5.1.

The results of one reproductive and developmental toxicity study in rabbits conducted with Vaxigrip Tetra (60 µg of total amount HA/dose) can be extrapolated to Vaxigrip (45 µg of total amount HA /dose): this study did not indicate direct or indirect harmful effects with respect to pregnancy, embryo-foetal development or early post-natal development.

Breastfeeding

Vaxigrip may be used during breastfeeding.

Fertility

No fertility data are available in humans. One animal study with VAXIGRIP TETRA did not indicate harmful effects on female fertility.

4.7 Effects on ability to drive and use machines

Vaxigrip has no or negligible influence on the ability to drive and use machines.

4.8 Undesirable effects

a. Summary of the safety profile

The safety profile of Vaxigrip is based on data from 46 clinical studies in which approximately 17,900 participants from 6 months of age received Vaxigrip or Vaxigrip Tetra, and data from post-marketing surveillance.

Most of adverse reactions usually occurred within the first 3 days after vaccination and resolved spontaneously within 1 to 3 days of their onset. The intensity of most these reactions was mild to moderate.

The most frequently reported undesirable effect after vaccination, in all populations including the whole group of children from 6 to 35 months of age, was injection site pain

Tabulated list of adverse reactions

Adverse events are ranked under headings of frequency using the following convention:

Very common ($\geq 1/10$);

Common ($\geq 1/100$ to $< 1/10$);

Uncommon ($\geq 1/1,000$ to $< 1/100$);

Rare ($\geq 1/10,000$ to $< 1/1,000$);

Not known (cannot be estimated from available data)

Adult and elderly

The safety profile is based on data:

- from clinical studies in more than 8,000 adults (5,064 for Vaxigrip, 3,040 for Vaxigrip Tetra) and more than 5,800 elderly subjects over 60 years of age (4,468 for Vaxigrip, 1,392 for Vaxigrip Tetra),
- from worldwide post-marketing surveillance in the general population
- In adults, the most frequently reported adverse reactions after vaccination were: injection site pain (52.8%), headache (27.8%), myalgia (23.0%) and malaise (19.2%).

In the elderly, the most frequently reported adverse reactions after vaccination were: injection site pain (25.8%), headache (15.6%) and myalgia (13.9%).

Table 1: Adverse reactions reported in adults and the elderly

System Organ Class (SOC)/ Adverse Reactions	Frequency
<i>Blood and Lymphatic System Disorders</i>	
Lymphadenopathy ⁽¹⁾	Uncommon
Transient thrombocytopenia	Not known*
<i>Immune System Disorders</i>	
Allergic reactions such as hypersensitivity ⁽²⁾ , atopic dermatitis ⁽²⁾ , urticaria ^(2, 3) , oropharyngeal pain, asthma ⁽¹⁾ , allergic rhinitis ⁽²⁾ , rhinorrhea ⁽¹⁾ , allergic conjunctivitis ⁽²⁾ , pruritus ⁽⁴⁾ , hot flush ⁽⁵⁾	Uncommon
Allergic reactions such as angioedema ^(2, 3) , swelling of the face, erythema, rash, flushing ⁽⁵⁾ , oral mucosal eruption ⁽⁵⁾ , oral paraesthesia ⁽⁵⁾ , throat irritation, dyspnoea ^(2, 3) , sneezing, nasal obstruction ⁽²⁾ , upper respiratory tract congestion ⁽²⁾ , ocular hyperaemia ⁽²⁾ , allergic dermatitis ⁽²⁾ , generalised pruritus ⁽²⁾	Rare
Allergic reactions such as, erythematous rash, anaphylactic reaction, shock	Not known*
<i>Metabolism and nutrition disorders</i>	
Decreased appetite	Rare
<i>Nervous System Disorders</i>	
Headache	Very common
Dizziness ⁽⁴⁾ , somnolence ⁽⁴⁾	Uncommon
Hypoaesthesia ⁽²⁾ , paresthesia	Rare
Neuralgia, convulsions, encephalomyelitis, neuritis, Guillain Barré Syndrome	Not known*
<i>Vascular disorders</i>	
Vasculitis such as Henoch-Schonlein purpura, with transient renal involvement in certain cases	Not known*
<i>Gastrointestinal Disorders</i>	

Diarrhea, nausea	Uncommon
Abdominal pain ⁽²⁾ , vomiting	Rare
<i>Skin and Subcutaneous System Disorders</i>	
Hyperhidrosis ⁽¹⁾	Uncommon
<i>Musculoskeletal and Connective Tissue Disorders</i>	
Myalgia	Very common
Arthralgia ⁽¹⁾	Uncommon
<i>General Disorders and Administration Site Conditions</i>	
Injection site pain, malaise ⁽⁶⁾	Very common
Fever ⁽⁷⁾ , chills, injection site erythema, injection site induration, injection site swelling	Common
Asthenia ⁽¹⁾ , fatigue, injection site ecchymosis, injection site pruritus, injection site warmth, injection site discomfort	Uncommon
Flu-like symptoms, injection site exfoliation ⁽⁵⁾ , injection site hypersensitivity ⁽²⁾	Rare

⁽¹⁾ Rare in the elderly

⁽²⁾ Reported during clinical trials in adults

⁽³⁾ Not known in the elderly

⁽⁴⁾ Rare in adults

⁽⁵⁾ Reported during clinical trials in the elderly

⁽⁶⁾ Common in elderly

⁽⁷⁾ Uncommon in elderly

(*) Adverse reactions reported post-marketing after use of VAXIGRIP or VAXIGRIP TETRA

Paediatric population

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The safety profile is based on data:

- from clinical studies in 1,247 children from 3 to 8 years of age (363 for Vaxigrip, 884 for Vaxigrip Tetra) and in 725 children/adolescents from 9 to 17 years of age (296 for Vaxigrip, 429 for Vaxigrip Tetra),
- from worldwide post-marketing surveillance in the general population

Depending on immunisation history, children from 6 months to 8 years of age received one or two doses of VAXIGRIP or VAXIGRIP TETRA. Children/adolescents from 9 to 17 years of age received one dose. In children from 6 months to 8 years of age, the safety profile was similar after the first and the second injections with a trend for a lower incidence of adverse reactions after the second injection compared to the first one in children from 6 to 35 months.

In children/adolescents from 9 to 17 years of age, the most frequently reported adverse reactions after vaccination were: injection site pain (65.3%), myalgia (29.1%), headache (28.6%), malaise (20.3%), chills (13.0%), injection site erythema (11.7%) and injection site swelling (11.4%). In children from 3 to 8 years of age, the most frequently reported adverse reactions after vaccination were: injection site pain (59.1%), malaise (30.7%), injection site erythema (30.3%), myalgia (28.5%), headache (25.7%), injection site swelling (22.1%), injection site induration (17.6%), and chills (11.2%).

In children from 6 to 35 months of age, the most frequently reported adverse reactions after vaccination were: injection site pain/tenderness (29.4%), fever (20.4%) and injection site erythema (17.2%).

- In the subpopulation of children from 6 to 23 months of age, the most frequently reported adverse reactions after vaccination were: irritability (34.9%), abnormal crying (31.9%), lost appetite (28.9%), somnolence (19.2%) and vomiting (17.0%).
- In the subpopulation of children from 24 to 35 months of age, the most frequently reported adverse reactions after vaccination were: malaise (26.8%), myalgia (14.5%) and headache (11.9%).

Table 2: Adverse reactions reported in children and adolescents from 6 months to 17 years of age.

System Organ Class (SOC)/ Adverse Reactions	Frequency			
	Children 6–35 months of age		Children 3–8 years of age	Children and adolescents 9–17 years of age
	6–23 months of age	24–35 months of age		
<i>Blood and Lymphatic System Disorders</i>				
Lymphadenopathy ⁽¹⁾	Not known*		Uncommon	Not known*
Thrombocytopenia ⁽¹⁾	Not known*		Uncommon	Not known*
<i>Immune System Disorders</i>				
Allergic reactions such as: <ul style="list-style-type: none"> • Oropharyngeal pain • Hypersensitivity • Rash • Urticaria • Pruritus • Generalised pruritus, • papular rash • Erythematous rash, dyspnoea, anaphylactic reaction, angioedema, shock 	<ul style="list-style-type: none"> - Uncommon - Not known* - Not known* - Rare - Not known* 		<ul style="list-style-type: none"> Uncommon - Uncommon Uncommon Uncommon - Not known* 	<ul style="list-style-type: none"> - - Uncommon Uncommon Not known* - Not known*
Metabolism and nutrition disorders				
- Decreased appetite	Very common	Rare	-	-
<i>Psychiatric Disorders</i>				
- Abnormal crying	Very common	-	-	-
- Irritability	Very common	Rare	-	-

- Agitation	-	-	Uncommon	-
- Moaning	-	-	Uncommon	-
<i>Nervous System Disorders</i>				
- Headache	-	Very common	Very common	Very common
- Somnolence	Very common	-	-	-
- Dizziness	-	-	Uncommon	Uncommon
- Neuralgia, neuritis and Guillain Barré Syndrome	-	-	Not known*	Not known*
- Paraesthesia, convulsions, encephalomyelitis	Not known*	Not known*	Not known*	Not known*
	Not known*			
<i>Vascular disorders</i>				
Vasculitis such as Henoch-Schonlein purpura, with transient renal involvement in certain cases	Not known*	Not known*	Not known*	Not known*
<i>Gastrointestinal Disorders</i>				
- Diarrhea,	Common	Common	Uncommon	Uncommon
- Abdominal pain	-	-	Uncommon	-
- Vomiting	Very common	Uncommon	Uncommon	-
<i>Musculoskeletal and Connective Tissue Disorders</i>				
- Myalgia		Very common	Very common	Very common
-	Rare			
- Arthralgia	-	-	Uncommon	-
<i>General Disorders and Administration Site Conditions</i>				
Injection site reactions				
- Injection site pain/tenderness, injection site erythema		Very common	Very common	Very common
- Injection site swelling		Common	Very common	Very common
- Injection site induration		Common	Very common	Common
- Injection site ecchymosis		Common	Common	Common
- Injection site pruritus		Rare	Uncommon	Uncommon
- Injection site warmth		-	Uncommon	Uncommon
- Injection site discomfort		-	-	Uncommon
- Injection site rash		Rare	-	-
Systemic reactions				
- Malaise		Rare	Very common	
- Chills		-	Common	
- Fever		Very common	Common	
- Fatigue		Common	Common	
- Asthenia		Rare	Rare	
- Crying		-	-	
- Influenza-like illness		-	-	

		Rare	Rare	

(*) Adverse reactions reported post-marketing after use of VAXIGRIP or VAXIGRIPTETRA

Other special populations

Although only a limited number of subjects with co-morbidities were enrolled, studies conducted in renal transplant patients or asthmatic patients, showed no major differences in terms of safety profile of Vaxigrip in these populations.

Pregnant women

In clinical studies conducted in pregnant women in South Africa and Mali with Vaxigrip (see Sections 4.6 and 5.1), frequencies of local and systemic solicited reactions reported within 7 days following administration of the vaccine, were consistent with those reported for the adult population during clinical studies. In the study conducted in South Africa, local reactions were more frequent in the Vaxigrip group than in the placebo group in both HIV-negative and HIV-positive cohorts. There were no other significant differences in solicited reactions between Vaxigrip and placebo groups in both cohorts.

In one clinical study conducted in pregnant women in Finland with Vaxigrip and Vaxigrip Tetra (see Sections 4.6 and 5.1), frequencies of reported local and systemic solicited reactions were consistent with those reported for the non-pregnant adult population during clinical studies conducted with Vaxigrip or Vaxigrip Tetra even though higher for some adverse reactions (injection site pain, injection site erythema, malaise, shivering, headache, myalgia).

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. The email id for reporting of adverse events is PV.India@sanofi.com and Toll free number: 1800 22 2295.

4.9 Overdose

Cases of administration of more than the recommended dose (overdose) have been reported with Vaxigrip. When adverse reactions were reported, the information was consistent with the known safety profile of Vaxigrip described in Section 4.8.

5. PHARMACOLOGICAL PROPERTIES

5.1 Mechanism of action

Vaxigrip provides active immunisation against three influenza virus strains (two A subtypes and one B type) contained in the vaccine.

Vaxigrip induces humoral antibodies against the haemagglutinins within 2 to 3 weeks. These antibodies neutralise influenza viruses.

Specific levels of haemagglutination-inhibition (HAI) antibody titer post-vaccination with inactivated influenza virus vaccines have not been correlated with protection from influenza illness but the HAI antibody titers have been used as a measure of vaccine

activity. In some human challenge studies, HAI antibody titers of $\geq 1:40$ have been associated with protection from influenza illness in up to 50% of subjects.

Since influenza viruses constantly evolve, the virus strains selected in the vaccine are reviewed annually by the WHO.

Annual influenza vaccination is recommended given the duration of immunity provided by the vaccine and because circulating strains of influenza virus change from year to year.

5.2 Pharmacodynamic properties

Pharmacotherapeutic group: Influenza vaccine, ATC code: J07BB02

Efficacy

Efficacy data of Vaxigrip are available in pregnant women and in infants less than 6 months of age born to vaccinated pregnant women (passive protection).

In children from 6 to 35 months of age and from 3 to 8 years of age (active immunisation), Vaxigrip efficacy is based on extrapolation of Vaxigrip Tetra efficacy.

- Infants less than 6 months of age born to vaccinated pregnant women (passive protection)

Infants less than 6 months of age are at high risk of influenza, resulting in high rates of hospitalization; however influenza vaccines are not indicated for active immunisation in this age group.

Efficacy in infants of women who received a single 0.5 mL dose of Vaxigrip during the second or third trimester of pregnancy has been demonstrated in clinical trials.

The efficacy of Vaxigrip in infants born to women vaccinated during the first trimester of pregnancy has not been studied in these trials. Necessary influenza vaccination during the first trimester should not be postponed (see Section 4.6).

In randomized, controlled phase IV clinical studies conducted in Mali, Nepal and South Africa, approximately 5,000 pregnant women received Vaxigrip and approximately 5,000 pregnant women received placebo or control vaccine (quadrivalent meningococcal conjugate vaccine) during the second or third trimester of pregnancy. Vaccine efficacy against laboratory confirmed influenza in pregnant women was evaluated as a secondary endpoint in all three studies.

The studies conducted in Mali and South Africa demonstrated the efficacy of Vaxigrip for the prevention of influenza in pregnant women following vaccination during these trimesters of pregnancy (see Table 3). In the study conducted in Nepal, the efficacy of Vaxigrip for the prevention of influenza in pregnant women following vaccination during these trimesters of pregnancy was not demonstrated.

Table 3: Influenza Attack Rates and Vaxigrip Efficacy against Laboratory-confirmed influenza in pregnant women

	Influenza Attack Rate (Any influenza A or B type) % (n/N)		Vaxigrip Efficacy % (95% CI)
	Vaxigrip	Control*	
Mali	0.5 (11/2,108)	1.9 (40/2,085)	70.3 (42.2; 85.8)
	Vaxigrip	Placebo	
South Africa	1.8 (19/1,062)	3.6 (38/1,054)	50.4 (14.5; 71.2)

* Meningococcal vaccine

N: Number of pregnant women included in analysis

n: number of subjects with laboratory confirmed influenza

CI: Confidence Interval

In the same randomized, controlled phase IV clinical studies conducted in Mali, Nepal and South Africa, 4530 of 4898 (92%) infants born to pregnant women who received Vaxigrip and 4532 of 4868 (93%) infants born to pregnant women who received a placebo or control vaccine (quadrivalent meningococcal conjugate vaccine) (see Table 4) during the second or third trimester of pregnancy, were followed up until approximately 6 months of age.

The studies confirmed the efficacy of Vaxigrip for prevention of influenza in infants from birth until approximately 6 months of age following vaccination of women during these trimesters of pregnancy. Women in their first trimester of pregnancy were not included in these studies; Vaxigrip efficacy in infants born to mothers vaccinated during the first trimester could therefore not be evaluated.

Table 4: Influenza Attack Rates and Vaxigrip Efficacy against Laboratory-confirmed influenza in infants following vaccination in pregnant women

	Influenza Attack Rate (Any influenza A or B type) % (n/N)		Vaxigrip Efficacy % (95% CI)
	Vaxigrip	Control*	
Mali	2.4 (45/1,866)	3.8 (71/1,869)	37.3 (7.6 ; 57.8)
	Vaxigrip	Placebo	
Nepal	4.1 (74/1,820)	5.8 (105/1,826)	30.0 (5 ; 48)
South Africa	1.9 (19/1,026)	3.6 (37/1,023)	48.8 (11.6; 70.4)

* Meningococcal vaccine

N: Number of infants included in the analysis

n: number of subjects with laboratory-confirmed influenza

CI: Confidence Interval

The efficacy data indicate a waning protection of the infants born to vaccinated mothers by time after birth.

In the trial conducted in South Africa, vaccine efficacy was highest among infants 8 weeks of

age or younger (85.8% [95% CI, 38.3 to 98.4]) and decreased over time; vaccine efficacy was 25.5% (95% CI, -67.9 to 67.8) for infants >8 to 16 weeks of age and 30.4% (95% CI, -154.9 to 82.6) for infants >16 to 24 weeks of age.

In the trial conducted in Mali, there is also a trend of higher efficacy of Vaxigrip in infants during the first 4 months after birth, with lower efficacy within the 5th month of surveillance and a marked fall within the 6th month where protection is no longer evident.

The prevention of influenza disease can only be expected if the infant(s) are exposed to strains included in the vaccine administered to the mother.

Children from 6 to 35 months of age (active immunisation):

A randomized placebo controlled study was conducted in 4 regions (Africa, Asia, Latina America and Europe) over 4 influenza seasons, in more than 5,400 children from 6 to 35 months of age who received two doses (0.5 mL) of Vaxigrip Tetra (N=2,722), or placebo (N=2,717) 28 days apart to assess Vaxigrip Tetra efficacy for the prevention of laboratory-confirmed influenza illness caused by any strain A and/or B and caused by vaccine similar strains (as determined by sequencing).

Laboratory-confirmed influenza illness was defined as influenza like-illness (ILI) [occurrence of fever $\geq 38^{\circ}\text{C}$ (that lasts at least 24 hours) concurrently with at least one of the following symptoms: cough, nasal congestion, rhinorrhoea, pharyngitis, otitis, vomiting, or diarrhoea], laboratory-confirmed by reverse transcriptase polymerase chain reaction (RT-PCR) and/or viral culture.

Table 5: Influenza Attack Rates and Vaxigrip Tetra Efficacy against laboratory-confirmed influenza illness in children from 6 to 35 months of age

	Vaxigrip Tetra (N=2,584)		Placebo (N=2,591)		Efficacy
	N	Influenza Attack Rate (%)	n	Influenza Attack Rate (%)	% (2-sided 95% CI)
Laboratory-confirmed influenza illness caused by:					
- Any influenza A or B type	122	4.72	255	9.84	52.03 (40.24; 61.66)
- Viral strains similar to those contained in the vaccine	26	1.01	85	3.28	69.33 (51.93; 81.03)

N: Number of children analysed (full set)

n: number of subjects fulfilling the item listed

CI: Confidence Interval

In addition, a predefined complementary analysis showed Vaxigrip Tetra prevented 56.6% (95% CI: 37.0; 70.5) of severe laboratory-confirmed influenza illnesses due to any strain, and 71.7% (95% CI: 43.7; 86.9) of severe laboratory-confirmed influenza illnesses due to vaccine-similar strains. Furthermore, subjects receiving Vaxigrip Tetra were 59.2% (95% CI: 44.4; 70.4) less likely to experience a medically attended influenza illness than subjects receiving placebo.

Severe laboratory-confirmed influenza illnesses were defined as ILI laboratory-confirmed by RT-PCR and/or viral culture with at least one of the following items:

- fever $> 39.5^{\circ}\text{C}$ for subjects aged < 24 months or $\geq 39.0^{\circ}\text{C}$ for subjects aged ≥ 24 months,
- and/or at least one significant ILI symptom which prevents daily activity (cough, nasal congestion, rhinorrhoea, pharyngitis, otitis, vomiting, diarrhoea),

- and/or one of the following events: acute otitis media, acute lower respiratory infection (pneumonia, bronchiolitis, bronchitis, croup), inpatient hospitalization.

Children from 3 to 8 years of age (active immunisation):

Based on immune responses of Vaxigrip Tetra observed in children 3 to 8 years of age, the efficacy of Vaxigrip Tetra in this population is expected to be at least similar to the efficacy observed in children from 6 to 35 months (see “*Children from 6 to 35 months of age*” above and “Immunogenicity of Vaxigrip Tetra” below).

Immunogenicity

Clinical studies performed in adults from 18 to 60 years of age, in elderly over 60 years of age, in children from 3 to 8 years of age and from 6 to 35 months of age described Vaxigrip (TIV) and Vaxigrip Tetra (QIV) immune response for HAI Geometric mean antibody titer (GMT) at Day 21 (for adults) and at Day 28 (for children), HAI seroconversion rate (4-fold rise in reciprocal titer or change from undetectable [< 10] to a reciprocal titer of ≥ 40), and HAI GMTR (post-/pre-vaccination titers).

One clinical study performed in adults from 18 to 60 years of age and in children from 9 to 17 years of age described the immune response of Vaxigrip Tetra and Vaxigrip for HAI GMT at Day 21. Another clinical study performed in children from 9 to 17 years of age described the immune response of Vaxigrip Tetra.

One clinical study performed in pregnant women described the immune response of Vaxigrip Tetra and Vaxigrip for HAI GMT at Day 21, HAI seroconversion rate, and HAI GMTR after one dose administered during the second or third trimester of pregnancy. In this study, the transplacental transfer was evaluated using HAI GMTs of maternal blood, of cord blood and the ratio of cord blood/maternal blood, at delivery.

Vaxigrip induced a significant immune response to the 3 influenza strains contained in the vaccine.

In children from 3 years of age, in adults including pregnant women and in the elderly, Vaxigrip was as immunogenic as Vaxigrip Tetra for the strains in common.

Adults and elderly

In one clinical study, the immune response was described in adults from 18 to 60 years of age and elderly over 60 years of age who received one 0.5-mL dose of Vaxigrip or Vaxigrip Tetra.

The immunogenicity results by HAI method in adults from 18 to 60 years of age and elderly over 60 years of age are presented in Table 6

Table 6: Immunogenicity results in adults from 18 to 60 years of age, 21 days after vaccination with Vaxigrip or Vaxigrip Tetra

Antigen Strain	Adults from 18 to 60 years of age			The elderly over 60 years of age		
	Alternative TIV ^(a) (B Victoria) N=140	Licensed TIV ^(b) (B Yamagata) N=138	QIV N=832	Alternative TIV ^(a) (B Victoria) N=138	Licensed TIV ^(b) (B Yamagata) N=137	QIV N=831
	GMT (95% CI)					
A (H1N1) (c)(d)	685 (587; 800)		608 (563;657)		268 (228; 314)	219 (199; 214)
A (H3N2) (c)	629 (543; 728)		498 (459; 541)		410 (352; 476)	359 (329; 391)
B (Victoria)	735 (615; 879)	-	708 (661; 760)	301 (244; 372)	-	287 (265; 311)
B (Yamagata)	-	1735 (1490; 2019)	1715 (1607; 1830)	-	697 (593; 820)	655 (611; 701)
	SC % (95% CI) ^(e)					
A (H1N1) (c)(d)	65.1 (59.2; 70.7)		64.1 (60.7; 67.4)		50.2 (44.1; 56.2)	45.6 (42.1; 49.0)
A (H3N2) ^(c)	73.4 (67.8; 78.5)		66.2 (62.9; 69.4)		48.5 (42.5; 54.6)	47.5 (44.1; 51.0)
B (Victoria)	70.0 (61.7; 77.4)	-	70.9 (67.7; 74.0)	43.5 (35.1; 52.2)	-	45.2 (41.8; 48.7)
B (Yamagata)	-	60.9 (52.2; 69.1)	63.7 (60.3;67.0)	-	38.7 (30.5; 47.4)	42.7 (39.3; 46.2)
	GMTR (95% CI) ^(f)					
A (H1N1) (c)(d)	10.3 (8.35; 12.7)		9.77 (8.69; 11.0)		6.03 (4.93; 7.37)	4.94 (4.46; 5.47)
A (H3N2) (c)	14.9 (12.1; 18.4)		10.3 (9.15; 11.5)		5.79 (4.74; 7.06)	5.60 (5.02; 6.24)
B (Victoria)	11.4 (8.66; 15.0)	-	11.6 (10.4; 12.9)	4.60 (3.50; 6.05)	-	4.61 (4.18; 5.09)
B (Yamagata)	-	6.08 (4.79; 7.72)	7.35 (6.66;8.12)	-	4.11 (3.19; 5.30)	4.11 (3.73; 4.52)

N: number of subjects with available data for the considered endpoint

GMT: Geometric Mean Titer; CI: Confidence Interval

- (a) Alternative TIV containing A/California/7/2009 (H1N1), A/Texas/50/2012 (H3N2), and B/Brisbane/60/2008 (Victoria lineage)
- (b) 2014-2015 licensed TIV containing A/California/7/2009 (H1N1), A/Texas/50/2012 (H3N2), and B/Massachusetts/2/2012 (Yamagata lineage)
- (c) Pooled TIV group includes participants vaccinated with either Alternative TIV or licensed TIV, N=278
- (d) N=833 for QIV group
- (e) SC: Seroconversion or significant increase: for subjects with a pre-vaccination titer <10 (1/dil), proportion of subjects with a post-vaccination titer ≥40 (1/dil) and for subjects with a pre-vaccination titer ≥10 (1/dil), proportion of subjects with a ≥four-fold increase from pre- to post-vaccination titer
- (f) GMTR: Geometric mean of individual titer ratios (post-/pre-vaccination titers)

Pregnant women and transplacental transfer

In one clinical study, a total of 116 pregnant women received Vaxigrip and 230 pregnant women received Vaxigrip Tetra during the second or third trimester of pregnancy (from 20 to 32 weeks of pregnancy). Immunogenicity results by HAI method, in pregnant women 21 days after vaccination with Vaxigrip or Vaxigrip Tetra are presented in Table 7 .

Table 7: Immunogenicity results by HAI method in pregnant women, 21 days after vaccination with Vaxigrip or Vaxigrip Tetra

Antigen Strain	TIV (B Victoria) N=109	QIV N=216
	GMT (95% CI)	
A (H1N1)*	638 (529; 769)	525 (466; 592)
A (H3N2)*	369 (283; 483)	341 (286; 407)
B1 (Victoria)*	697 (569; 855)	568 (496; 651)
B2 (Yamagata)*	-	993 (870; 1134)
	≥4-fold-rise n (%) ^(a)	
A (H1N1)*	41.3 (31.9; 51.1)	38.0 (31.5; 44.8)
A (H3N2)*	62.4 (52.6; 71.5)	59.3 (52.4; 65.9)
B1 (Victoria)*	60.6 (50.7; 69.8)	61.1 (54.3; 67.7)
B2 (Yamagata)*	-	59.7 (52.9; 66.3)
	GMTR (95% CI) ^(b)	
A (H1N1)*	5.26 (3.66; 7.55)	3.81 (3.11; 4.66)
A (H3N2)*	9.23 (6.56; 13.0)	8.63 (6.85; 10.9)
B1 (Victoria)*	9.62 (6.89; 13.4)	8.48 (6.81; 10.6)
B2 (Yamagata)*	-	6.26 (5.12; 7.65)

N: number of subjects with available data for the considered endpoint

GMT: Geometric Mean Titer; CI: Confidence Interval

*A/H1N1: A/Michigan/45/2015 (H1N1) pdm09-like virus; A/H3N2: A/Hong Kong/4801/2014 (H3N2)-like virus;

B1: B/Brisbane/60/2008-like virus (B/Victoria lineage): *this strain was included in the TIV composition*;

B2: B/Phuket/3073/2013-like virus (B/Yamagata lineage): *this strain was not included in the TIV composition*.

(a) SC: Seroconversion or significant increase: for subjects with a pre-vaccination titer <10 (1/dil), proportion of subjects with a post-vaccination titer ≥40 (1/dil) and for subjects with a pre-vaccination titer ≥10 (1/dil), proportion of subjects with a ≥four-fold increase from pre- to post-vaccination titer

(b) GMTR: Geometric mean of individual titer ratios (post-/pre-vaccination titers)

A descriptive analysis of immunogenicity by HAI method, at delivery, in sample of mother's blood (BL03M), in a sample of cord blood (BL03B) and of transplacental transfer (BL03B/BL03M) are presented in Table 8 .

Table 8 : Immunogenicity descriptive assessment by HAI method of Vaxigrip or Vaxigrip Tetra, at delivery

Antigen Strain	TIV (B Victoria) N=89	QIV N=178
	BL03M (Maternal blood) GMT (95% CI)	
A (H1N1)*	411 (332; 507)	304 (265; 349)

Antigen Strain	TIV (B Victoria) N=89	QIV N=178
A (H3N2)*	186 (137; 250)	178 (146; 218)
B1 (Victoria)*	371 (299; 461)	290 (247; 341)
B2 (Yamagata)*	-	547 (463; 646)
	BL03B (Cord blood) GMT (95% CI)	
A (H1N1)*	751 (605; 932)	576 (492; 675)
A (H3N2)*	324 (232; 452)	305 (246; 379)
B1 (Victoria)*	608 (479; 772)	444 (372; 530)
B2 (Yamagata)*	-	921 (772; 1099)
	Transplacental transfer: BL03B/BL03M** GMT (95% CI)	
A (H1N1)*	1.83 (1.64; 2.04)	1.89 (1.72; 2.08)
A (H3N2)*	1.75 (1.55; 1.97)	1.71 (1.56; 1.87)
B1 (Victoria)*	1.64 (1.46; 1.85)	1.53 (1.37; 1.71)
B2 (Yamagata)*	-	1.69 (1.54; 1.85)

N: number of subjects with available data for the considered endpoint: women who received QIV or TIV, delivered at least 2 weeks after injection and with available cord blood and mother blood at the time of delivery.

GMT: Geometric Mean Titer; CI: Confidence Interval

*A/H1N1: A/Michigan/45/2015 (H1N1) pdm09-like virus; A/H3N2: A/Hong Kong/4801/2014 (H3N2)-like virus;

B1: B/Brisbane/60/2008-like virus (B/Victoria lineage): this strain was included in the TIV composition;

B2: B/Phuket/3073/2013-like virus (B/Yamagata lineage): this strain was not included in the TIV composition.

†BL03M: Blood sample of mother at delivery

**BL03B: Cord blood sample at delivery

§ If a mother have X babies, her titers values is counted X times

At delivery, the higher level of antibodies in the cord sample compared to the maternal sample is consistent with transplacental antibody transfer from mother to the newborn following vaccination of women with Vaxigrip or Vaxigrip Tetra during the second or third trimester of pregnancy.

These data are consistent with the passive protection demonstrated in infants from birth to approximately 6 months of age following vaccination of women during the second or third trimester of pregnancy with Vaxigrip in studies conducted in Mali, Nepal, and South Africa (see subsection Efficacy)

Pediatric population

- Children from 9 to 17 years of age

In a total of 55 children from 9 to 17 years of age who received one dose of Vaxigrip and 429 who received one dose of Vaxigrip Tetra, the immune response against the strains contained in the vaccine was similar to the immune response induced in adults 18 to 60 years of age.

- Children from 3 years to 8 years of age

In one clinical study, the immune response was described in children from 3 to 8 years of age who received either one or two 0.5-ml doses of Vaxigrip or Vaxigrip Tetra, depending on their previous influenza vaccination history.

Children who received a one- or two-dose schedule of Vaxigrip or Vaxigrip Tetra presented a

similar immune response following the last dose of the respective schedule.

The immunogenicity results by HAI method 28 days after receipt of the last injection are presented in Table 9 .

- Children from 6 months to 35 months of age:

In one clinical trial, the immune response was described in children from 6 to 35 months of age who received two 0.5 mL doses of VAXIGRIP or VAXIGRIPTETRA.

The immunogenicity results by HAI method, 28 days after receipt of the last injection are presented in Table 9.

Table 9: Immunogenicity results in children from 3 to 8 years of age 28 days after the last injection of Vaxigrip or Vaxigrip Tetra

Antigen strain	Children from 6 to 35 months of age			Children from 3 to 8 years of age		
	Alternative TIV ^(a) (B Victoria) N = 172	Licensed TIV ^{(b) (c)} (B Yamagata) N = 178	QIV N = 341	Alternative TIV ^(a) (B Victoria) N = 176	Licensed TIV ^(b) (B Yamagata) N = 168	QIV N = 863
	GMT (95% CI)					
A (H1N1) (d)	637 (500; 812)	628 (504; 781)	641 (547; 752)	1,141 (1,006; 1,295)		971 (896; 1,052)
A (H3N2) (d)	1,021 (824; 1,266)	994 (807; 1,224)	1,071 (925; 1,241)	1,746 (1,551; 1,964)		1,568 (1,451; 1,695)
B (Victoria) ^(e)	835 (691; 1,008)	-	623 (550; 706)	1,120 (921; 1,361)	-	1,050 (956; 1,154)
B (Yamagata) (f) (g)	-	1,009 (850; 1,198)	1,010 (885; 1,153)	-	1,211 (1,003; 1,462)	1,173 (1,078; 1,276)
	% SC (95% CI) ^(e)					
A (H1N1) ^(d)	87.2 (81.3; 91.8)	90.4 (85.1; 94.3)	90.3 (86.7; 93.2)	65.7 (60.4; 70.7)		65.7 (62.4; 68.9)
A (H3N2) (d)	88.4 (82.6; 92.8)	87.6 (81.9; 92.1)	90.3 (86.7; 93.2)	67.7 (62.5; 72.6)		64.8 (61.5; 68.0)
B (Victoria) ^(e)	99.4 (96.8; 100.0)	-	98.8 (97.0; 99.7)	90.3 (85.0; 94.3)	-	84.8 (82.3; 87.2)
B (Yamagata) (f) (g)	-	99.4 (96.9; 100.0)	96.8 (94.3; 98.4)	-	89.9 (84.3; 94.0)	88.5 (86.2; 90.6)
	GMTR (95% CI) ^(f)					
A (H1N1) (d)	35.3 (27.4; 45.5)	40.6 (32.6; 50.5)	36.6 (30.8; 43.6)	7.65 (6.54; 8.95)		6.86 (6.24; 7.53)
A (H3N2)	44.1	37.1	42.6	7.61		7.49

Antigen strain	Children from 6 to 35 months of age			Children from 3 to 8 years of age		
	Alternative TIV ^(a) (B Victoria) N = 172	Licensed TIV ^{(b) (c)} (B Yamagata) N = 178	QIV N = 341	Alternative TIV ^(a) (B Victoria) N = 176	Licensed TIV ^(b) (B Yamagata) N = 168	QIV N = 863
^(d)	(33.1; 58.7)	(28.3; 48.6)	(35.1; 51.7)	(6.69; 9.05)		(6.72; 8.35)
B (Victoria) ^(e)	114 (94.4; 138)	-	100 (88.9; 114)	17.8 (14.5; 22.0)	-	17.1 (15.5; 18.8)
B (Yamagata) ^{(f) (g)}	-	111 (91.3; 135)	93.9 (79.5; 111)	-	30.4 (23.8; 38.4)	25.3 (22.8; 28.2)

N = number of subjects with available data for the considered endpoint

GMT: Geometric mean titre; CI: Confidence interval;

(a) Alternative TIV containing A/California/7/2009 (H1N1), A/Texas/50/2012 (H3N2) and B/Brisbane/60/2008 (Victoria lineage)

(b) 2014-2015 licensed TIV containing A/California/7/2009 (H1N1), A/Texas/50/2012 (H3N2) and B/Massachusetts/2/2012 (Yamagata lineage)

(c) Dose of 0.5 mL in children 6 to 35 months of age

(d) For children 3 to 8 years of age: The TIV group includes participants vaccinated with either alternative TIV or licensed TIV, N = 344

(e) N = 169 for Vaxigrip (B Victoria) group in children 3 to 8 years of age

(f) N = 862 for QIV group in children 3 to 8 years of age

(g) For alternative TIV (B Victoria) group: N = 171 for children 6 to 35 months of age; N = 175 for children 3 to 8 years of age

(h) SC: seroconversion or significant increase: for subjects with a pre-vaccination titre <10 (1/dil), proportion of subjects with a post-vaccination titre ≥40 (1/dil) and for subjects with a pre-vaccination titre ≥10 (1/dil), proportion of subjects with a ≥four-fold increase in the titre post-vaccination

(i) GMTR: Geometric mean of individual titre ratios (post-/pre-vaccination titres)

These immunogenicity data provide supportive information in addition to efficacy data available in this population (see Section Efficacy).

5.3 Pharmacokinetic properties

Not applicable.

6. NONCLINICAL PROPERTIES

6.1 Animal Toxicology or Pharmacology

Data in animals generated with Vaxigrip Tetra (60 µg of total amount HA/dose) can be extrapolated to Vaxigrip (45 µg of total amount HA/dose): these data revealed no unexpected findings and no target organ toxicity.

7. DESCRIPTION

The vaccine, after shaking gently, is a slightly whitish and opalescent liquid.

8. PHARMACEUTICAL PARTICULARS

List of excipients

Phosphate buffered saline solution q.s 0.5 mL:

Sodium chloride 8g/L

Potassium chloride 0.2g/L

Disodium phosphate dihydrate 1.15g/L

Potassium dihydrogen phosphate : 0.2 g/L

Water for injections....q.s

8.1 Incompatibilities

In the absence of compatibility studies, this medicinal product must not be mixed with other medicinal products.

8.2 Shelf life

Refer outer carton

Do not use Vaxigrip after the expiry date which is stated on the carton after expiry. The expiry date refers to the last day of that month.

8.3 Packaging information

0.5 mL of suspension in pre-filled syringe (type I glass) with attached needle, equipped with a plunger stopper (elastomer bromobutyl) – box of 1

8.4 Storage and handling instructions

Store in a refrigerator (2°C – 8°C).

The vaccine should be allowed to reach room temperature before use.

Shake before use. Inspect visually prior to administration.

The vaccine should not be used if foreign particles are present in the suspension.

Any unused medicinal product or waste material should be disposed of in accordance with local requirements.

9. PATIENT COUNSELLING INFORMATION

Not applicable

10. DETAILS OF MANUFACTURER

Manufacturer by:

Sanofi Pasteur,

Parc Industriel d'Incarville, 27100 Val de Reuil, France

Imported and marketed by:

Sanofi Healthcare India Private Limited

Gala No. 4, Ground Floor, Building No. B1, Citylink Warehousing Complex,

S No.121/10/A,121/10/B & 69, NH3, Vadape, Tal: Bhiwandi-16, (Thane-Z5),Pin 421302.

India

Registered medical practitioners can refer to the company website www.sanofi.in for the latest prescribing information.

11. DETAILS OF PERMISSION OR LICENCE NUMBER WITH DATE

IL/BIO-000250- RC/BIO-000249 dated 16 Dec 2021

12. DATE OF REVISION

March 2025

Source: Based on WHO recommendations for 2025/2026 Northern Hemisphere season and EU SmPC dated Nov 2024.