HIGHLIGHTS OF PRESCRIBING INFORMATION
These highlights do not include all the information needed to use PRIORIX safely and effectively. See full prescribing information for PRIORIX.

PRIORIX (Measles, Mumps, and Rubella Vaccine, Live) for injectable suspension, for subcutaneous use
Initial U.S. Approval: 2022

----------RECENT MAJOR CHANGES----------
Contraindications, Immunosuppression (4.2) 11/2025

---------- INDICATIONS AND USAGE----------
PRIORIX is a vaccine indicated for active immunization for the prevention of measles, mumps, and rubella in individuals 12 months of age and older. (1)

----------DOSAGE AND ADMINISTRATION----------
For subcutaneous use.
Each dose is approximately 0.5 mL.
- The first dose is administered at 12 through 15 months of age. (2.1)
- The second dose is administered at 4 through 6 years of age. (2.1)

---------- DOSAGE FORMS AND STRENGTHS----------
For injectable suspension. PRIORIX is supplied as a single-dose vial of Lyophilized Antigen Component, Live to be reconstituted with the accompanying prefilled syringe of Sterile Water Diluent Component. A single dose after reconstitution is approximately 0.5 mL. (3)

---------- CONTRAINDICATIONS ----------
- Severe allergic reaction (e.g., anaphylaxis) to any component of PRIORIX, or after a previous dose of any measles, mumps, and rubella virus-containing vaccine. (4.1)
- Severe immunodeficiency. (4.2)
- Pregnancy. (4.3, 8.1)

---------- WARNINGS AND PRECAUTIONS----------
- There is a risk of febrile seizure following administration of PRIORIX. (5.2)
- Thrombocytopenia and thrombocytopenic purpura have been reported following vaccination with PRIORIX. (5.3)
- Syncope (fainting) can occur in association with administration of injectable vaccines, including PRIORIX. Procedures should be in place to avoid injury from fainting. (5.4)
- The tip caps of the prefilled syringes contain natural rubber latex, which may cause allergic reactions. (5.5)

---------- ADVERSE REACTIONS ----------
Most common solicited adverse reactions in clinical trials participants:
- 12 through 15 months of age: local reactions were pain (26%) and redness (25%); systemic reactions were irritability (63%), loss of appetite (45%), drowsiness (45%), and fever (35%). (6.1)
- 4 through 6 years of age: local reactions were pain (41%), redness (22%), and swelling (11%); systemic reactions were loss of appetite (21%), drowsiness (27%), and fever (24%). (6.1)
- 7 years of age and older: local reactions were pain (12%) and redness (12%). (6.1)

To report SUSPECTED ADVERSE REACTIONS, contact GlaxoSmithKline at 1-888-825-5249 or VAERS at 1-800-822-7967 or www.vaers.hhs.gov.

---------- DRUG INTERACTIONS----------
- Administration of immune globulins and other blood products concurrently with PRIORIX may interfere with the expected immune response to the vaccine. (7.2)
- PRIORIX may result in a temporary suppression of tuberculin reactivity. (7.3)

---------- USE IN SPECIFIC POPULATIONS ----------
- Do not use during pregnancy. (8.1)
- Avoid pregnancy for 1 month following vaccination with PRIORIX. (8.1)

See 17 for PATIENT COUNSELING INFORMATION.

Revised: 11/2025

FULL PRESCRIBING INFORMATION: CONTENTS*

*Sections or subsections omitted from the full prescribing information are not listed.

FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

PRIORIX is a vaccine indicated for active immunization for the prevention of measles, mumps, and rubella in individuals 12 months of age and older.

2 DOSAGE AND ADMINISTRATION

For subcutaneous use.

2.1 Dose and Schedule

After reconstitution, a single dose of PRIORIX is approximately 0.5 mL.

Administer according to the following schedule:

- First dose – 12 through 15 months of age
- Second dose – 4 through 6 years of age

If PRIORIX is not administered according to this schedule and 2 doses of measles-, mumps- and rubella-virus vaccine are recommended for an individual, there should be a minimum of 4 weeks between the first and second dose.

PRIORIX may be administered as a second dose to individuals who have received a first dose of another measles, mumps and rubella virus-containing vaccine.

2.2 Preparation

Reconstitute the Lyophilized Antigen Component, Live only with the accompanying Sterile Water Diluent Component to form PRIORIX. The reconstituted vaccine should be a clear peach- to fuchsia pink-colored suspension. Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration, whenever solution and container permit. If either of these conditions exists, do not administer the vaccine.

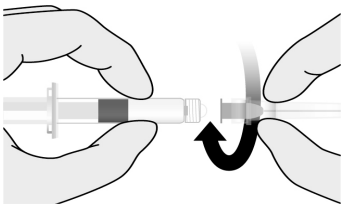

Figure 1. Hold the prefilled syringe of Sterile Water Diluent Component by the barrel and unscrew the syringe cap by twisting it counterclockwise. Align the needle to the axis of the syringe and attach by gently connecting the needle hub into the Luer Lock Adaptor (LLA) and rotate a quarter turn clockwise until you feel it lock.

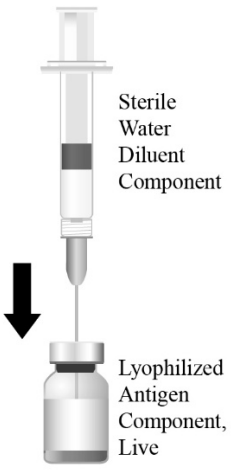

Figure 2. Cleanse the Lyophilized Antigen Component, Live vial stopper. Transfer the entire contents of the prefilled syringe into the vial.

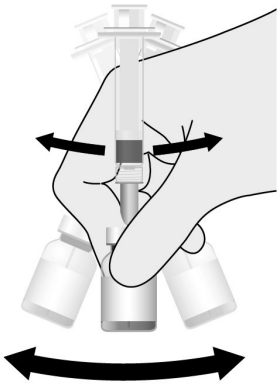

Figure 3. Shake the vial well until the powder is completely dissolved. Do not invert the vial while shaking.

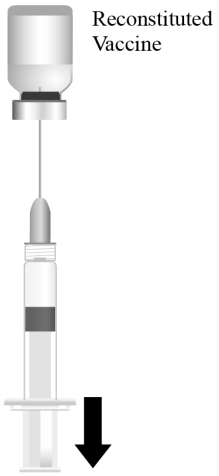

Figure 4. After reconstitution, **withdraw the entire contents** of the reconstituted vaccine into the same syringe and after changing the needle, administer **subcutaneously**.

2.3 Administration

Administer PRIORIX immediately after reconstitution. If not used immediately, store refrigerated between 36° and 46°F (2° and 8°C) and administer within 8 hours. Discard reconstituted vaccine if not used within 8 hours.

3 DOSAGE FORMS AND STRENGTHS

For injectable suspension. PRIORIX is supplied as a single-dose vial of Lyophilized Antigen Component, Live to be reconstituted with the accompanying prefilled syringe of Sterile Water Diluent Component. A single dose after reconstitution is approximately 0.5 mL.

4 CONTRAINDICATIONS

4.1 Severe Allergic Reactions

Do not administer PRIORIX to individuals with a history of severe allergic reactions (e.g., anaphylaxis) to any component of the vaccine or after a previous dose of any measles, mumps, and rubella virus-containing vaccine *[see Description (11)]*.

4.2 Immunosuppression

Do not administer PRIORIX to individuals who are immunodeficient or immunosuppressed due to disease or medical therapy. These individuals are at risk of disseminated vaccine virus infection *[see Drug Interactions (7.1)]*.

4.3 Pregnancy

Do not administer PRIORIX to individuals who are pregnant. Pregnancy should be avoided for 1 month after vaccination *[see Use in Specific Populations (8.1)]*.

5 WARNINGS AND PRECAUTIONS

5.1 Allergic Vaccine Reactions

Appropriate medical treatment used to manage immediate allergic reactions must be available in the event an acute anaphylactic reaction occurs following administration of PRIORIX.

5.2 Febrile Seizures

There is a risk of febrile seizure following immunization with PRIORIX *[see Adverse Reactions (6.1)]*.

5.3 Thrombocytopenia

Thrombocytopenia and thrombocytopenic purpura have been reported following vaccination with PRIORIX *[see Adverse Reactions (6.2)]*.

5.4 Syncope

Syncope (fainting) can occur in association with administration of injectable vaccines, including PRIORIX. Procedures should be in place to avoid injury from fainting.

5.5 Latex

The tip caps of the prefilled syringes of diluent contain natural rubber latex, which may cause allergic reactions.

5.6 Risk of Vaccine Virus Transmission

Live attenuated rubella vaccine virus has been detected in the nose and throat of individuals 7 to 28 days after vaccination with a rubella virus containing vaccine, but no documented confirmed cases of transmitted rubella vaccine virus have been reported.[1]

5.7 Limitation of Vaccine Effectiveness

Vaccination with PRIORIX may not protect all susceptible individuals.

6 ADVERSE REACTIONS

The most commonly reported (≥10%) solicited adverse reactions in the following age groups in clinical trials were:

- Age 12 through 15 months – local: pain (26%) and redness (25%); systemic: irritability (63%), loss of appetite (45%), drowsiness (45%), and fever (35%)
- Age 4 through 6 years – local: pain (41%), redness (22%), and swelling (11%); systemic: loss of appetite (21%), drowsiness (27%), and fever (24%)
- Age 7 years and older – local: pain (12%) and redness (12%)

6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a vaccine cannot be directly compared with rates in the clinical trials of another vaccine and may not reflect the rates observed in practice.

The safety of PRIORIX was evaluated in 6 clinical studies, in which a total of 12,151 participants (6,391 in the United States) received at least 1 dose of PRIORIX: 8,780 children (4,148 in the United States) 12 through 15 months of age; 2,917 children (1,950 in the United States) 4 through 6 years of age; and 454 adults and children (293 in the United States) 7 years of age and older. Across the 6 studies, participants who received PRIORIX are as follows: 51.6% were male; 64.6% were White, 18.4% were Asian, 6.1% were Black, and 10.9% were of other racial groups (including American Indian/Native American, Native Hawaiian/Pacific Islander, Arabic/North African and Other); and 14.3% were of Hispanic/Latino ethnicity. The racial/ethnic distribution of participants who received PRIORIX and M-M-R II was similar.

Children 12 through 15 Months of Age Who Received PRIORIX as a First Dose

In a randomized, observer-blind, controlled clinical study (Study 1, NCT01702428) conducted in 5 countries (United States [including Puerto Rico], Estonia, Finland, Mexico and Spain), 5,003 participants 12 through 15 months of age received a first dose of PRIORIX (n = 3,714) or M-M-R II (n = 1,289) given concomitantly with HAVRIX (Hepatitis A Vaccine) and VARIVAX (Varicella Virus Vaccine Live, Merck & Co., Inc.); children enrolled in the United States also received PREVNAR 13 (Pneumococcal 13-valent Conjugate Vaccine, Pfizer Inc.) concomitantly. In the overall population, 51.3% were male; 75.6% were White, 4.8% were Black, 3.5% were Asian, 16.1% were of other racial groups (including American Indian/Native American, Native Hawaiian/Pacific Islander, Arabic/North African and Other); and 18.6% were of Hispanic/Latino ethnicity. The median age of participants was 12 months (range: 11 to 16 months). Local solicited adverse reactions were recorded by parents or guardians using standardized diary cards for 4 days. Systemic solicited adverse reactions of drowsiness, loss of appetite, and irritability were collected for 15 days, and fever, rash, parotid/salivary gland swelling, febrile convulsions, and signs of meningeal irritation (i.e., neck stiffness with or without photophobia or headache) were collected for 43 days (Table 1). Unsolicited adverse events that occurred within 43 days following vaccination were recorded using diary cards supplemented by medical review. Data on solicited adverse reactions and unsolicited adverse events were transcribed into the study database during an on-site visit on Day 42 and via telephone contact on Day 180.

Table 1. Incidence of Solicited Local and Systemic Adverse Reactions after the First Dose of PRIORIX Compared with M-M-R II in Children 12 through 15 Months of Age (Study 1, NCT01702428, Total Vaccinated Cohort)[a]

Adverse Reaction	PRIORIX n (%)	M-M-R II n (%)
Local (within 4 Days[b])	**N = 3,555**	**N = 1,242**
Pain	919 (25.9%)	349 (28.1%)
Redness	870 (24.5%)	313 (25.2%)
Swelling	318 (8.9%)	133 (10.7%)
Systemic (within 15 Days[b])	**N = 3,566**	**N = 1,243**
Drowsiness	1601 (44.9%)	586 (47.1%)
Irritability	2258 (63.3%)	819 (65.9%)
Loss of appetite	1608 (45.1%)	548 (44.1%)
Systemic (within 43 Days[b])	**N = 3,566**	**N = 1,243**
Measles/rubella-like rash	235 (6.6%)	77 (6.2%)
Fever (defined as temperature ≥38°C/100.4°F)	1244 (34.9%)	412 (33.1%)
Parotid/salivary gland swelling	0	0
Febrile convulsions	7 (0.2%)	3 (0.2%)
Signs of meningeal irritation[c]	3 (0.1%)	0

Total vaccinated cohort for safety included all vaccinated participants for whom safety data were available.
N = Number of participants.
n = Number of participants presenting with solicited adverse reaction described.
[a] HAVRIX and VARIVAX were administered concomitantly with PRIORIX or M-M-R II; participants in the U.S. also received PREVNAR 13 concomitantly with PRIORIX (n = 1,847) or M-M-R II (n = 654).
[b] 4 Days, 15 Days, and 43 Days included the day of vaccination and the subsequent 3, 14, and 42 days, respectively.
[c] Neck stiffness with or without photophobia or headache.

Children 12 through 15 Months of Age Who Received a Second Dose of PRIORIX 6 Weeks after the First Dose

In a randomized, observer-blind, controlled clinical study (Study 2, NCT01681992) conducted in six countries (United States [including Puerto Rico], Czech Republic, Finland, Malaysia, Spain and Thailand), 4,516 participants 12 through 15 months of age received a first dose of PRIORIX (n = 2,990) or M-M-R II (n = 1,526) followed by a second dose of the same vaccine 6 weeks later. The first dose was given concomitantly with HAVRIX and VARIVAX; children enrolled in the United States (including Puerto Rico) also received PREVNAR 13 concomitantly. In the overall population, 51.7% were male; 68.4% were White, 24.4% were Asian, 3.2% were Black, and 4.0% were of other racial groups (including American Indian/Native American, Native Hawaiian/Pacific Islander, Arabic/North African and Other); and 5.6% were of Hispanic/Latino ethnicity. The median age of participants was 12 months (range: 11 to 16 months). Local solicited adverse reactions were recorded by parents or guardians using standardized diary cards for 4 days, and systemic adverse reactions of fever, rash, parotid/salivary gland swelling, febrile convulsions, and signs of meningeal irritation (i.e., neck stiffness with or without photophobia or headache) were collected for 43 days. Unsolicited adverse events that occurred within 43 days following vaccination were recorded using diary cards supplemented by

medical review. Data on solicited adverse reactions and unsolicited adverse events were transcribed into the study database during on-site visits on Day 42, Day 84, and Day 222. The safety profile of PRIORIX following the second dose was similar to the safety profile following the first dose of PRIORIX.

Children 4 through 6 Years of Age Who Received PRIORIX as a Second Dose of Measles, Mumps, and Rubella Vaccine

In a randomized, observer-blind, controlled clinical study (Study 3, NCT01621802) conducted in 3 countries (United States, South Korea, and Taiwan), 4,007 participants 4 through 6 years of age received PRIORIX (n = 2,917) or M-M-R II (n = 1,090) as a second dose following administration of an initial dose of a combined measles, mumps, and rubella virus-containing vaccine in the second year of life. PRIORIX and M-M-R II were given concomitantly with KINRIX (DTaP-IPV) [Diphtheria and Tetanus Toxoids and Acellular Pertussis Adsorbed and Inactivated Poliovirus Vaccine] and VARIVAX in a subset of subjects (n = 802 receiving PRIORIX, n = 298 receiving M-M-R II) enrolled in the United States. In the overall population, 52.5% were male; 42.4% were White, 37.2% were Asian, 8.2% were Black, and 12.3% were of other racial groups (including American Indian/Native American, Native Hawaiian/Pacific Islander, Arabic/North African and Other) and 17.2% were of Hispanic/Latino ethnicity. The median age of participants was 4 years (range: 3 to 6 years). In a subset of participants who received concomitantly administered vaccines, data on local solicited adverse reactions were recorded by parents or guardians using standardized diary cards for 4 days. Systemic solicited adverse reactions of drowsiness and loss of appetite were collected for 4 days, and fever, rash, parotid/salivary gland swelling, febrile convulsions, and signs of meningeal irritation (i.e., neck stiffness with or without photophobia or headache) were collected for 43 days (Table 2). Unsolicited adverse events that occurred within 43 days following vaccination were recorded using diary cards supplemented by medical review. Data on solicited adverse reactions and unsolicited adverse events were transcribed into the study database during an on-site visit on Day 42 and via telephone contact on Day 180.

Table 2. Incidence of Solicited Local and Systemic Adverse Reactions after the Second Dose of PRIORIX Compared with M-M-R II Concomitantly Administered with KINRIX and VARIVAX in Children 4 through 6 Years of Age (Study 3, NCT01621802, Total Vaccinated Cohort)

Adverse Reaction	PRIORIX n (%)	M-M-R II n (%)
Local (within 4 Days[a])	**N = 727**	**N = 267**
Pain	295 (40.6%)	109 (40.8%)
Redness	157 (21.6%)	69 (25.8%)
Swelling	82 (11.3%)	28 (10.5%)
Systemic (within 4 Days[a])	**N = 731**	**N = 268**
Drowsiness	199 (27.2%)	72 (26.9%)
Loss of appetite	154 (21.1%)	59 (22.0%)
Systemic (within 43 Days[a])	**N = 731**	**N = 268**
Measles/rubella-like rash	14 (1.9%)	5 (1.9%)
Fever (defined as temperature ≥38°C/100.4°F)	177 (24.2%)	67 (25.0%)
Parotid/salivary gland swelling	0	0
Febrile convulsions	0	0
Signs of meningeal irritation[b]	0	2 (0.7%)

Total vaccinated cohort for safety included all vaccinated participants for whom safety data were available.
N = Number of participants.
n = Number of participants presenting with solicited adverse reaction described.
[a] 4 Days and 43 Days included the day of vaccination and the subsequent 3 and 42 days, respectively.
[b] Neck stiffness with or without photophobia or headache.

Individuals 7 Years of Age and Older Who Received PRIORIX as a Second Dose of Measles, Mumps, and Rubella Vaccine

In a randomized, observer-blind, controlled clinical study (Study 4, NCT02058563) conducted in 3 countries (United States, Slovakia, and Estonia), 860 participants 7 years of age and older received PRIORIX (n = 426) or M-M-R II (n = 434) as a second dose following previous administration of a combined measles, mumps, and rubella virus-containing vaccine. Participants 7 through 17 years were enrolled if they had received one dose of a combined measles, mumps, and rubella virus-containing vaccine on or after their first birthday and participants 18 years of age or older were enrolled if they previously received at least one dose of a combined measles, mumps, and rubella virus-containing vaccine. In the overall population, 46.2% were male; 73.8% were White, 0.2% were Asian, 24.0% were Black, and 1.9% were of other racial groups (including American Indian/Native American, Native Hawaiian/Pacific Islander, Arabic/North African and Other) and 13.3% were of Hispanic/Latino ethnicity. The median age of participants was 26 years (range: 7 to 59 years). Data on solicited local and systemic adverse reactions were recorded by the participants or their parents or guardians using standardized diary cards for 4 days and 43 days, respectively (Table 3). Unsolicited adverse events that occurred within 43 days following vaccination were recorded using diary cards supplemented by medical review. Data on solicited adverse reactions and unsolicited adverse events were transcribed into the study database during an on-site visit on Day 42 and via telephone contact on Day 180.

Table 3. Incidence of Solicited Local and Systemic Adverse Reactions after PRIORIX as a Second Dose Compared with M-M-R II in Individuals 7 Years of Age and Older (Study 4, NCT02058563, Total Vaccinated Cohort)[a]

	PRIORIX n (%)	**M-M-R II n (%)**
Local (within 4 Days[b])	**N = 405**	**N = 422**
Pain	49 (12.1%)	47 (11.1%)
Redness	48 (11.9%)	50 (11.8%)
Swelling	23 (5.7%)	29 (6.9%)
Systemic (within 43 Days[b])	**N = 405**	**N = 422**
Fever (defined as temperature ≥38°C/100.4°F)	11 (2.7%)	23 (5.5%)
Measles/rubella-like rash	0	2 (0.5%)
Joint pain (arthralgia/arthritis)	8 (2.0%)	4 (0.9%)
Parotid/salivary gland swelling	1 (0.2%)	0
Signs of meningeal irritation[c]	1 (0.2%)	1 (0.2%)

Total vaccinated cohort for safety included all vaccinated participants for whom safety data were available.
N = Number of participants.
n = Number of participants presenting with solicited adverse reaction described.
[a] Participants received a first dose of either M-M-R II, PRIORIX, or a non-U.S. combined measles, mumps, rubella and varicella virus vaccine.
[b] 4 Days and 43 Days included the day of vaccination and the subsequent 3 and 42 days, respectively.
[c] Neck stiffness with or without photophobia or headache.

6.2 Postmarketing Experience

In addition to adverse reactions reported from clinical trials, the following adverse reactions have been identified during postmarketing use of PRIORIX. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to vaccination with PRIORIX.

Blood and Lymphatic System Disorders

Thrombocytopenia, thrombocytopenic purpura.

Vascular Disorders

Vasculitis (including Henoch-Schönlein purpura and Kawasaki syndrome).

Immune System Disorders

Anaphylactic reactions.

Infections and Infestations

Meningitis, measles-like illness, mumps-like illness (including orchitis, epididymitis, and parotitis).

Musculoskeletal and Connective Tissue Disorders

Arthralgia, arthritis.

Nervous System Disorders

Encephalitis, cerebellitis, cerebellitis-like symptoms (including transient gait disturbance and transient ataxia), Guillain-Barré syndrome, transverse myelitis, peripheral neuritis, afebrile seizures, syncope.

Skin and Subcutaneous Tissue Disorders

Erythema multiforme, chronic cutaneous granulomas with rubella vaccine virus detected by biopsy.

7 DRUG INTERACTIONS

7.1 Immunosuppressive Drugs

Do not administer PRIORIX to individuals who are immunosuppressed due to medical therapy. Vaccination with PRIORIX can result in disseminated disease due to vaccine viruses in individuals on immunosuppressive drugs *[see Contraindications (4.2)]*.

7.2 Immune Globulins and Blood Products

Immune globulins and other blood products administered concomitantly with PRIORIX contain antibodies that may interfere with vaccine virus replication and decrease the expected immune response. The U.S. Centers for Disease Control and Prevention (CDC) has specific recommendations for intervals between administration of antibody containing products and live virus vaccines.

7.3 Tuberculin Skin Testing

PRIORIX may result in a temporary suppression of tuberculin reactivity. Therefore, if a tuberculin test is to be done, it should be administered either any time before, simultaneously with, or at least 4 weeks after PRIORIX to avoid false-negative results.

7.4 Use with Other Live Viral Vaccines

PRIORIX can be administered concomitantly with other live viral vaccines. If not given concomitantly, PRIORIX should be given 1 month before or 1 month after administration of other live viral vaccines to avoid potential for immune interference.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

PRIORIX contains live attenuated measles, mumps, and rubella viruses. The vaccine is contraindicated for use in pregnant women because infection during pregnancy with the wild-type viruses is associated with maternal and fetal adverse outcomes. Pregnancy should be avoided for 1 month after vaccination *[see Contraindications (4.3), Patient Counseling Information (17)]*.

Reports have indicated that contracting wild-type measles during pregnancy enhances fetal risk, including increased rates of spontaneous abortion, stillbirth, premature delivery and congenital defects.[2,3] Wild-type mumps virus infection during the first trimester of pregnancy may increase the rate of spontaneous abortion. Pregnant women infected with wild-type rubella virus are at increased risk for miscarriage or stillbirth, and their infants are at risk for congenital rubella syndrome (CRS).[1]

Postmarketing surveillance has identified a case of CRS following inadvertent vaccination of a pregnant woman with a measles, mumps, and rubella virus containing vaccine from an unknown manufacturer[4] *[see Data]*.

There are no animal studies with PRIORIX to inform use during pregnancy.

All pregnancies have a risk of birth defect, loss, or other adverse outcomes. In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2% to 4% and 15% to 20%, respectively.

Data

Human Data: Postmarketing surveillance has identified a case of CRS associated with a rubella virus strain belonging to the genotype that includes the rubella virus strain Wistar RA 27/3 contained in PRIORIX. The infant with CRS was born to a pregnant woman who was inadvertently vaccinated at 5 weeks gestation with a measles, mumps, and rubella virus containing vaccine from an unknown manufacturer.[4]

8.2 Lactation

Risk Summary

It is not known whether the vaccine components of PRIORIX are excreted in human milk. Data are not available to assess the effects of PRIORIX on the breastfed infant or on milk production/excretion. Studies have shown that lactating postpartum women vaccinated with live attenuated rubella vaccine may secrete the virus in breast milk and transmit it to breast-fed infants.[5,6] In the breast-fed infants with serological evidence of rubella virus vaccine strain antibodies, none exhibited severe disease; however, one exhibited mild clinical illness typical of acquired rubella.[7,8]

The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for PRIORIX and any potential adverse effects on the breastfed child from PRIORIX or from the underlying maternal condition. For preventive vaccines, the underlying maternal condition is susceptibility to disease prevented by the vaccine.

8.4 Pediatric Use

Safety and effectiveness of PRIORIX in infants younger than 12 months have not been established.

8.5 Geriatric Use

Clinical studies of PRIORIX did not include participants 65 years of age and older to determine whether they respond differently from younger participants.

11 DESCRIPTION

PRIORIX (Measles, Mumps, and Rubella Vaccine, Live) is an injectable suspension for subcutaneous use. PRIORIX is supplied as a sterile, Lyophilized Antigen Component, Live which is reconstituted at the time of use with the accompanying Sterile Water Diluent Component. The Lyophilized Antigen Component, Live is a whitish to slightly pink powder, a portion of which may be yellowish to slightly orange.

PRIORIX contains the Schwarz strain of live attenuated measles virus, the RIT 4385 strain of live attenuated mumps virus (derived from the Jeryl Lynn strain), both propagated in chick-embryo fibroblasts from embryonated eggs of specific pathogen-free flocks and the Wistar RA 27/3 strain of live attenuated rubella virus propagated in MRC-5 human diploid cells. The 3 virus strains are cultured in media containing amino acids, a small amount of neomycin sulfate and bovine serum albumin and are stabilized after multiple washing steps in

media free from antibiotics and albumin. The attenuated measles, mumps and rubella viruses are then mixed with a stabilizer prior to lyophilization.

After reconstitution, each approximately 0.5-mL dose contains not less than 3.4 $\log_{10}$ Cell Culture Infective Dose 50% ($CCID_{50}$) of measles virus, 4.2 $\log_{10}$ $CCID_{50}$ of mumps virus, and 3.3 $\log_{10}$ $CCID_{50}$ of rubella virus. Each dose also contains 32 mg of anhydrous lactose, 9 mg of sorbitol, 9 mg of amino acids, and 8 mg of mannitol. Each dose may also contain residual amounts of neomycin sulphate (≤25 mcg), ovalbumin (≤60 ng), and bovine serum albumin (≤50 ng), from the manufacturing process. After reconstitution, PRIORIX is a clear peach- to fuchsia pink-colored suspension.

PRIORIX contains no preservative.

The tip caps of the prefilled syringes of Sterile Water Diluent Component contain natural rubber latex. The plungers of the syringes and the stoppers of the Lyophilized Antigen Component, Live vials are not made with natural rubber latex.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Humoral immune responses against measles, mumps, and rubella viruses induced by PRIORIX were measured by enzyme-linked immunosorbent assays (ELISAs). IgG antibodies measured by the ELISAs used in clinical studies of PRIORIX have been shown to correlate with the presence of neutralizing antibodies that have been associated with protection *[see Clinical Studies (14)]*.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

PRIORIX has not been evaluated for carcinogenic or mutagenic potential or for impairment of fertility.

14 CLINICAL STUDIES

The effectiveness of PRIORIX is based on a comparison of antibody responses relative to M-M-R II. Antibody responses to measles, mumps, and rubella viruses were measured by ELISAs. Analyses evaluated antibody geometric mean concentrations (GMC) and seroresponse rates (SRR). Seroresponse thresholds are 200 mIU/mL, 10 ELU/mL, and 10 IU/mL for anti-measles virus, anti-mumps virus, and anti-rubella virus antibodies, respectively.

14.1 Antibody Responses to Measles, Mumps and Rubella Viruses

Children 12 through 15 Months of Age Who Received PRIORIX as a First Dose

In Study 1 (NCT01702428), 5,003 participants 12 through 15 months of age received a first dose of PRIORIX (n = 3,714) or M-M-R II (n = 1,289) *[see Adverse Reactions (6.1)]*. Antibody responses to measles, mumps, and rubella viruses were measured by ELISAs using sera obtained 42 days following the first dose of either PRIORIX or M-M-R II. Non-inferiority of the immune response after the first dose of PRIORIX compared with M-M-R II was demonstrated in terms of SRR and GMC to measles, mumps, and rubella viruses. The immune responses measured in the U.S. study participants were similar to those in the overall study population. A summary of immune responses is shown in Table 4.

Table 4. Immune Responses after the First Dose of PRIORIX Compared with M-M-R II (Study 1, NCT01702428, According-to-Protocol Population)

Parameter	Virus Antigen	PRIORIX N = 3,187-3,248	M-M-R II N = 1,107-1,137	Difference (PRIORIX minus M-M-R II) (95% CI)
SRR[a] (%)	Measles	98	98	0.18 (-0.68, 1.25)
	Mumps	98	98	0.81 (-0.10, 1.96)
	Rubella	97	99	-1.15 (-2.00, -0.15)
		PRIORIX N = 3,187-3,248	**M-M-R II N = 1,107-1,137**	**Ratio (PRIORIX / M-M-R II) (95% CI)**
GMC[b]	Measles (mIU/mL)	3,165	3,215	0.98 (0.93, 1.05)
	Mumps (ELU/mL)	76	73	1.05 (0.99, 1.11)
	Rubella (IU/mL)	53	60	0.87 (0.83, 0.92)

According-to-Protocol cohort included all vaccinated participants who met protocol-defined criteria for immunogenicity analysis.

PRIORIX or M-M-R II was administered concomitantly with HAVRIX and VARIVAX; U.S. participants also received PREVNAR 13.

N = Number of participants.

SRR = Seroresponse rate (percentage of initially seronegative participants with concentration above seroresponse threshold for each assay).

GMC = Geometric mean antibody concentration adjusted for country.

CI = Confidence Interval.

[a] Non-inferiority criterion met for all antigens (lower limit of 2-sided 95% CI for the difference [group receiving PRIORIX minus group receiving M-M-R II] was ≥-5%).

[b] Non-inferiority criterion met for all antigens (lower limit of 2-sided 95% CI for the ratio [group receiving PRIORIX over group receiving M-M-R II] was ≥0.67).

Children 12 through 15 Months of Age Who Received a Second Dose of PRIORIX 6 Weeks after the First Dose

In Study 2 (NCT01681992), 4,516 participants 12 through 15 months of age received a first dose of PRIORIX (n = 2,990) or M-M-R II (n = 1,526) followed by a second dose of the same vaccine 6 weeks later *[see Adverse Reactions (6.1)]*. Antibody responses to measles, mumps, and rubella viruses were measured in a subset of participants (n = 199 – 259 PRIORIX; n = 212 – 257 M-M-R II) in sera obtained 42 days following the second dose of either PRIORIX or M-M-R II. In a descriptive analysis, the immune response after a second dose was

similar between the group receiving PRIORIX and the group receiving M-M-R II in terms of antibody SRR and GMC for all antigens.

Children 4 through 6 Years of Age Who Received PRIORIX as a Second Dose of Measles, Mumps, and Rubella Virus Vaccine

In Study 3 (NCT01621802), 4,007 participants 4 through 6 years of age received PRIORIX (n = 2,917) or M-M-R II (n = 1,090) as a second dose following administration of an initial dose of a combined measles, mumps, and rubella virus-containing vaccine in the second year of life *[see Adverse Reactions (6.1)]*. Prior to vaccination, the percentages of participants with antibody levels above the seroresponse thresholds were 98.0% for measles, 95.7% for mumps, and 98.7% for rubella. Antibody responses to measles, mumps, and rubella viruses were measured by ELISAs using sera obtained 42 days following of either PRIORIX or M-M-R II as a second dose. The non-inferiority of PRIORIX to M-M-R II when administered with KINRIX and VARIVAX was demonstrated in terms of SRR and GMC to measles, mumps, and rubella viruses at Day 42 (Table 5).

Table 5. Immune Responses to PRIORIX Compared with M-M-R II as a Second Dose in Children 4 through 6 Years of Age (Study 3, NCT01621802, According-to-Protocol Population)

Parameter	Virus Antigen	PRIORIX N = 690-698	M-M-R II N = 245-250	Difference (PRIORIX minus M-M-R II) (97.5% CI)
SRR[a] (%)	Measles	100	100	0.00 (-0.72, 1.98)
	Mumps	100	100	0.00 (-0.72, 1.97)
	Rubella	100	100	-0.14 (-0.98, 1.84)
		PRIORIX N = 690-691	**M-M-R-II N = 245-248**	**Ratio (PRIORIX / M-M-R II) (97.5% CI)**
GMC[b]	Measles (mIU/mL)	4,285	4,333	0.99 (0.92, 1.06)
	Mumps (ELU/mL)	171	188	0.91 (0.83, 1.00)
	Rubella (IU/mL)	97	94	1.03 (0.97, 1.09)

According-to-Protocol cohort included all vaccinated participants who met protocol-defined criteria for immunogenicity analysis.

N = Number of participants.

SRR = Seroresponse rate (percentage of participants with concentration above seroresponse threshold for each assay).

GMC = Geometric mean antibody concentration adjusted for pre-vaccination concentration.

CI = Confidence Interval.

[a] Non-inferiority criterion met for all antigens (lower limit of 2-sided 97.5% CI for the difference [group receiving PRIORIX minus group receiving M-M-R II] was ≥-5%).

[b] Non-inferiority criterion met for all antigens (lower limit of 2-sided 97.5% CI for the ratio [group receiving PRIORIX over group receiving M-M-R II] was ≥0.67).

Individuals 7 Years of Age and Older Who Received PRIORIX as a Second Dose of Measles, Mumps, and Rubella Vaccine

In Study 4 (NCT02058563), 860 participants 7 years of age and older received PRIORIX (n = 426) or M-M-R II (n = 434) as a second dose following previous administration of a combined measles, mumps, and rubella virus-containing vaccine *[see Adverse Reactions (6.1)]*. Prior to vaccination, the percentages of participants with antibody levels above the seroresponse thresholds were 93.1% for measles, 88.0% for mumps, and 81.9% for rubella. Antibody responses to measles, mumps, and rubella viruses were measured in sera obtained 42 days following the second dose of either PRIORIX or M-M-R II. The non-inferiority of the immune response after the second dose of PRIORIX compared with M-M-R II was demonstrated in terms of SRR and antibody GMC to measles, mumps, and rubella antigens. A summary of immune responses is shown in Table 6.

Table 6. Immune Responses to PRIORIX as a Second Dose Compared with M-M-R II (Study 4, NCT02058563, According-to-Protocol Population)

Parameter	Virus Antigen	PRIORIX N = 405	M-M-R II N = 414	Difference (PRIORIX minus M-M-R II) (95% CI)
SRR[a] (%)	Measles	99	99	-0.51 (-2.22, 1.02)
	Mumps	98	100	-1.25 (-3.10, 0.23)
	Rubella	100	100	-0.25 (-1.57, 0.90)
		PRIORIX N = 404	**M-M-R II N = 413**	**Ratio (PRIORIX / M-M-R II) (95% CI)**
GMC[b]	Measles (mIU/mL)	1,754	1,783	0.98 (0.89, 1.09)
	Mumps (ELU/mL)	114	110	1.04 (0.94, 1.15)
	Rubella (IU/mL)	76	74	1.03 (0.94, 1.12)

According-to-Protocol cohort included all vaccinated participants who met protocol-defined criteria for immunogenicity analysis.
N = Number of participants.
SRR = Seroresponse rate (percentage of participants with concentration above seroresponse threshold for each assay).
GMC = Geometric mean antibody concentration adjusted for gender, age, country, and pre-vaccination concentration.
CI = Confidence Intervals.
[a] Non-inferiority criterion met for all antigens (lower limit of 2-sided 95% CI for the difference [group receiving PRIORIX minus group receiving M-M-R II] was ≥-5%).
[b] Non-inferiority criterion met for all antigens (lower limit of 2-sided 95% CI for the ratio [group receiving PRIORIX over group receiving M-M-R II] was ≥0.67).

14.2 Concomitant Administration

Concomitant Administration with HAVRIX, VARIVAX, and PREVNAR 13

The concomitant use of PRIORIX or M-M-R II with HAVRIX and VARIVAX was evaluated in Study 1 (NCT01702428) in children 12 through 15 months of age. All participants received PRIORIX or M-M-R II administered concomitantly with HAVRIX and VARIVAX. Children enrolled in the U.S. also received PREVNAR 13 concomitantly.

In subsets of participants in Study 1, immune responses to the antigens contained in HAVRIX, VARIVAX, and PREVNAR 13 were measured in sera obtained 42 days after concomitant administration of PRIORIX or

M-M-R II. There was no evidence that PRIORIX interfered with the antibody responses to these vaccines relative to the antibody responses when M-M-R II was concomitantly administered.

Concomitant Administration with KINRIX and VARIVAX

The concomitant use of PRIORIX or M-M-R II with KINRIX and VARIVAX was evaluated in Study 3 (NCT01621802) in children 4 through 6 years of age. A subset of participants received PRIORIX or M-M-R II administered concomitantly with KINRIX and VARIVAX.

Immune responses to the antigens contained in KINRIX and VARIVAX were measured in sera obtained 42 days after concomitant administration of PRIORIX or M-M-R II. There was no evidence that PRIORIX interfered with the antibody responses to these vaccines relative to the antibody responses when M-M-R II was concomitantly administered.

15 REFERENCES

1. Centers for Disease Control and Prevention. Measles, Mumps, and Rubella- Vaccine Use and Strategies for Elimination of Measles, Rubella, and Congenital Rubella Syndrome and Control of Mumps: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR. 2013; 62(4);1-34.
2. Eberhart-Phillips, J.E.; et al: Measles in pregnancy: a descriptive study of 58 cases. Obstetrics and Gynecology, 82(5): 797-801, November 1993.
3. Jespersen, C.S.; et al: Measles as a cause of fetal defects: A retrospective study of ten measles epidemics in Greenland. Acta Paediatr Scand. 66: 367-372, May 1977.
4. Bouthry, E.; Queinnec, C.; Vauzelle, C.; Vauloup-Fellous, C.: Congenital rubella syndrome following rubella vaccination during pregnancy. Pediatrics. 2023; 152 (3): e2022057627.
5. Losonsky, G.A.; Fishaut, J.M.; Strussenber, J.; Ogra, P.L.: Effect of immunization against rubella on lactation products. II. Maternal-neonatal interactions, J. Infect. Dis. 145: 661-666, 1982.
6. Losonsky, G.A.; Fishaut, J.M.; Strussenber, J.; Ogra, P.L.: Effect of immunization against rubella on lactation products. I. Development and characterization of specific immunologic reactivity in breast milk, J. Infect. Dis. 145: 654-660, 1982.
7. Landes, R.D.; Bass, J.W.; Millunchick, E.W.; Oetgen, W.J.: Neonatal rubella following postpartum maternal immunization, J. Pediatr. 97: 465-467, 1980.
8. Lerman, S.J.: Neonatal rubella following postpartum maternal immunization, J. Pediatr. 98: 668, 1981. (Letter)

16 HOW SUPPLIED/STORAGE AND HANDLING

PRIORIX is supplied in a box (NDC 58160-824-15) containing:

- 10 single-dose vials of Lyophilized Antigen Component, Live: NDC 58160-831-03
- 10 single-dose prefilled ungraduated syringes of Sterile Water Diluent Component (packaged without needles): NDC 58160-833-02

After reconstitution, each vial contains one dose (approximately 0.5 mL) of PRIORIX.

16.1 Storage before Reconstitution

Vials of Lyophilized Antigen Component, Live: Store refrigerated between 36° and 46°F (2° and 8°C). Protect vials from light.

Prefilled ungraduated syringes of Sterile Water Diluent Component: Store refrigerated between 36° and 46°F (2° and 8°C) or at controlled room temperature up to 77°F (25°C).

Do not freeze Lyophilized Antigen Component, Live or Sterile Water Diluent Component.

16.2 Storage after Reconstitution

Administer PRIORIX immediately after reconstitution. If not used immediately, store refrigerated between 36° and 46°F (2° and 8°C) and administer within 8 hours. Discard reconstituted vaccine if not used within 8 hours.

Do not freeze. Discard if the reconstituted vaccine has been frozen.

17 PATIENT COUNSELING INFORMATION

- Inform vaccine recipients, parents, or guardians of the potential benefits and risks of vaccination with PRIORIX.
- Question individuals of reproductive potential regarding the possibility of pregnancy prior to administration of PRIORIX. Instruct these individuals to avoid pregnancy for 1 month following vaccination *[see Contraindications (4.3), Use in Specific Populations (8.1)]*.
- Inform vaccine recipients, parents, or guardians about the potential for adverse reactions that have been observed following administration of PRIORIX.
- Provide the Vaccine Information Statements, which are available free of charge at the U.S. Centers for Disease Control and Prevention (CDC) website (www.cdc.gov/vaccines).

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