

*For the use only of Registered Medical Practitioners or a Hospital or a Laboratory*

## **PRIORIX**

### **Measles, Mumps and Rubella Vaccine (Live) IP**

#### **1. NAME OF THE MEDICINAL PRODUCT**

Measles, Mumps and Rubella Vaccine (Live) IP

#### **2. QUALITATIVE AND QUANTITATIVE COMPOSITION**

*PRIORIX* is a lyophilised mixed preparation of the attenuated Schwarz measles, RIT 4385 mumps (derived from Jeryl Lynn strain) and Wistar RA 27/3 rubella strains of viruses, separately obtained by propagation either in chick embryo tissue cultures (mumps and measles) or MRC-5 human diploid cells (rubella).

After reconstitution, each dose (0.5 ml) contains:

Live attenuated measles virus <sup>1</sup> (Schwarz strain)	not less than $10^{3.0}$ CCID <sub>50</sub> <sup>3</sup>
Live attenuated mumps virus <sup>1</sup> (RIT 4385 strain, derived from Jeryl Lynn strain)	not less than $10^{3.7}$ CCID <sub>50</sub> <sup>3</sup>
Live attenuated rubella virus <sup>2</sup> (Wistar RA27/3 strain)	not less than $10^{3.0}$ CCID <sub>50</sub> <sup>3</sup>
Water for injections, I.P. qs 0.5 ml	

<sup>1</sup> produced in chick embryo cells

<sup>2</sup> produced in human diploid (MRC-5) cells

<sup>3</sup> Cell Culture Infective Dose 50%

This vaccine contains a trace amount of neomycin. See section 4.3 *Contraindications*.

#### Excipient with known effect:

The vaccine contains 9 mg of sorbitol.

For the full list of excipients, see section 6.1 *List of Excipients*

*PRIORIX* meets the World Health Organisation requirements for manufacture of biological substances and for measles, mumps and rubella vaccines and combined vaccines (live).

#### **3. PHARMACEUTICAL FORM**

Powder and solvent for solution for injection.

The lyophilized Measles-Mumps-Rubella component is a white to slightly pink powder.

The solvent is a clear and colourless solution.

## **4. CLINICAL PARTICULARS**

### **4.1 Therapeutic indications**

*PRIORIX* is indicated for the active immunization against measles, mumps and rubella for population of age 9 months or older.

### **4.2 Posology and method of administration**

#### ***Posology***

The use of *PRIORIX* should be based on official recommendations.

The dose is 0.5 ml.

*PRIORIX* may be used in individuals who have previously been vaccinated with another monovalent or combined measles, mumps and rubella vaccine.

#### ***Method of administration***

*PRIORIX* is for subcutaneous injection, although it can also be given by intramuscular injection, in the deltoid region or in the anterolateral area of the thigh. (see section 4.4 *Special warnings and precautions for use* and 5.1 *Pharmacodynamic properties*).

The vaccine should preferably be administered subcutaneously in patients with thrombocytopenia or any coagulation disorder (see sections 4.4 *Special warnings and precautions for use*).

For instructions on reconstitution of the medicinal product before administration, see section 6.6 *Special precautions for disposal and other handling*.

### **4.3 Contraindications**

Hypersensitivity to the active substances or to any of the excipients listed in section 6.1 *List of excipients* or neomycin. A history of contact dermatitis to neomycin is not a contraindication. For hypersensitivity reactions to egg proteins, see section 4.4 *Special warnings and precautions for use*.

Hypersensitivity after previous administration of measles, mumps and/or rubella vaccines. Severe humoral or cellular (primary or acquired) immunodeficiency, e.g. severe combined immunodeficiency, agammaglobulinaemia and AIDS or symptomatic HIV infection or an age-specific CD4+ T lymphocyte percentage in children below 12 months: CD4+ < 25%; children between 12-35 months: CD4+ < 20%; children between 36-59 months: CD4+ < 15% (see section 4.4 *Special warnings and precautions for use*).

Pregnancy. Furthermore, pregnancy should be avoided for one month following vaccination (see section 4.6 *Pregnancy and lactation*).

As with other vaccines, the administration of *PRIORIX* should be postponed in subjects

suffering from acute severe febrile illness. The presence of a minor infection, such as a cold, should not result in the deferral of vaccination.

#### **4.4 Special warnings and precautions for use**

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

Alcohol and other disinfecting agents must be allowed to evaporate from the skin before injection of the vaccine since they can inactivate the attenuated viruses in the vaccine.

Infants in their first year of life may not respond sufficiently to the components of the vaccine, due to the possible interference with maternal measles antibodies (see section 4.2 *Posology and method of administration* and 5.1 *Pharmacodynamic properties*).

This should not preclude the use of the vaccine in younger infants (<12 months) since vaccination may be indicated in some situations such as high-risk areas. In these circumstances revaccination at or after 12 months of age should be considered (see section 5.1 *Pharmacodynamic properties*).

Due caution should be employed in administration of *PRIORIX* to individuals with Central Nervous System (CNS) disorder, susceptibility to febrile convulsions or family history of convulsions. Vaccinees with a history of febrile convulsions should be closely followed-up.

The measles and mumps components of the vaccine are produced in chick embryo cell culture and may therefore contain traces of egg protein. Persons with a history of anaphylactic, anaphylactoid, or other immediate reactions (e.g. generalised urticaria, swelling of the mouth and throat, difficulty in breathing, hypotension, or shock) subsequent to egg ingestion may be at an enhanced risk of immediate-type hypersensitivity reactions after vaccination, although these types of reactions have been shown to be very rare. Individuals who have experienced anaphylaxis after egg ingestion should be vaccinated with extreme caution, with adequate treatment for anaphylaxis on hand should such a reaction occur.

Limited protection against measles may be obtained by vaccination up to 72 hours after exposure to natural measles.

Syncope (fainting) can occur following, or even before any vaccination, especially in adolescents as a psychogenic response to the needle injection. This can be accompanied by several neurological signs such as transient visual disturbance, paraesthesia and tonic-clonic limb movements during recovery. It is important that procedures are in place to avoid injury from faints.

As with any vaccine, a protective immune response may not be elicited in all vaccinees.

***PRIORIX* SHOULD UNDER NO CIRCUMSTANCES BE ADMINISTERED INTRAVASCULARLY.**

#### ***Thrombocytopenia***

Cases of worsening of thrombocytopenia and cases of recurrence of thrombocytopenia in subjects who suffered thrombocytopenia after the first dose have been reported following

vaccination with live measles, mumps and rubella vaccines. MMR-associated thrombocytopenia is rare and generally self-limited. In patients with existing thrombocytopenia or a history of thrombocytopenia after measles, mumps or rubella vaccination the risk-benefit of administering *PRIORIX* should be carefully evaluated. These patients should be vaccinated with caution and preferably using subcutaneous route.

### ***Immunocompromised patients with HIV***

Vaccination may be considered in immunocompromised patients with HIV where the benefits outweigh the risks.

Immunocompromised patients with HIV who have no contraindication for this vaccination (see section 4.3 *Contraindications*) may not respond as well as immunocompetent subjects, therefore some of these patients may acquire measles, mumps or rubella in case of contact, despite appropriate vaccine administration. These patients should be monitored carefully for signs of measles, parotitis and rubella.

### ***Transmission***

Transmission of measles and mumps virus from vaccinees to susceptible contacts has never been documented. Pharyngeal excretion of the rubella and measles virus is known to occur about 7 to 28 days after vaccination with peak excretion around the 11<sup>th</sup> day. However, there is no evidence of transmission of these excreted vaccine viruses to susceptible contacts. Transmission of the rubella vaccine virus to infants via breast milk as well as the transplacental transmission has been documented without any evidence of clinical disease.

## **4.5 Interaction with other medicinal products and other forms of interaction**

Clinical studies have demonstrated that *PRIORIX* can be given simultaneously with any of the following monovalent or combination vaccines [including hexavalent vaccines (DTPa-HBV-IPV/Hib)]: diphtheria-tetanus-acellular pertussis vaccine (DTPa), reduced antigen diphtheria-tetanus-acellular pertussis vaccine (dTpa), *Haemophilus influenzae* type b vaccine (Hib), inactivated polio vaccine (IPV), hepatitis B vaccine (HBV), hepatitis A vaccine (HAV), meningococcal serogroup B vaccine (MenB), meningococcal serogroup C conjugate vaccine (MenC), meningococcal serogroups A, C, W-135 and Y conjugate vaccine (MenACWY), varicella zoster vaccine (VZV), oral polio vaccine (OPV) and pneumococcal conjugate vaccine, in accordance with official recommendations.

There are no data to support the use of *PRIORIX* with any other vaccines.

If *PRIORIX* is to be given at the same time as another injectable vaccine, the vaccines should always be administered at different injection sites.

If not given at the same time, an interval of at least one month is recommended between administration of *PRIORIX* and other live attenuated vaccines.

If tuberculin testing has to be done, it should be carried out before or simultaneously with vaccination since it has been reported that combined measles, mumps and rubella vaccines may cause a temporary depression of tuberculin skin sensitivity. As this anergy may last up to a maximum of 6 weeks, tuberculin testing should not be performed within that period after vaccination to avoid false negative results.

In subjects who have received human gammaglobulins or a blood transfusion, vaccination should be delayed for three months or longer (up to 11 months) depending on the dose of human globulins administered, because of the likelihood of vaccine failure due to passively acquired measles, mumps and rubella antibodies.

#### **4.6 Pregnancy and lactation**

##### ***Fertility***

*PRIORIX* has not been evaluated in fertility studies.

##### ***Pregnancy***

Pregnant women should not be vaccinated with *PRIORIX*.

However, foetal damage has not been documented when measles, mumps or rubella vaccines have been given to pregnant women.

Even if a theoretical risk cannot be excluded yet, no cases of congenital rubella syndrome have been reported in more than 3500 susceptible women who were unknowingly in early stages of pregnancy when vaccinated with rubella containing vaccines. Therefore, inadvertent vaccination of unknowingly pregnant women with measles, mumps and rubella containing vaccines should not be a reason for termination of pregnancy.

Pregnancy should be avoided for one month following vaccination. Women who intend to become pregnant should be advised to delay.

##### ***Breast-feeding***

There is limited experience with *PRIORIX* during breast-feeding. Studies have shown that breast-feeding postpartum women vaccinated with live attenuated rubella vaccines may secrete the virus in breast milk and transmit it to breast-fed infants without evidence of any symptomatic disease. Only in the event the child is confirmed or suspected to be immunodeficient, risks and benefits of vaccinating the mother should be evaluated (see section 4.3 *Contraindications*).

#### **4.7 Effects on ability to drive and use machines**

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

#### **4.8 Undesirable effects**

##### ***Summary of the safety profile***

The safety profile presented below is based on a total of approximately 12,000 subjects administered *PRIORIX* in clinical trials.

Adverse reactions which might occur following the use of a combined measles, mumps, rubella vaccine correspond to those observed after administration of the monovalent vaccines alone or in combination.

In controlled clinical studies, signs and symptoms were actively monitored during a 42-day follow-up period. The vaccinees were also requested to report any clinical events during the study period.

The most common adverse reactions following *PRIORIX* administration were injection-site redness and fever  $\geq 38^{\circ}\text{C}$  (rectal) or  $\geq 37.5^{\circ}\text{C}$  (axillary/oral).

### ***Tabulated list of adverse reactions***

Adverse reactions reported are listed according to the following frequency:

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 $< 1/1,000$ )

### ***Clinical trial data***

<b>System Organ Class</b>	<b>Frequency</b>	<b>Adverse reactions</b>
Infections and infestations	Common	upper respiratory tract infection
	Uncommon	otitis media
Blood and lymphatic system disorders	Uncommon	lymphadenopathy
Immune system disorders	Rare	allergic reactions
Metabolism and nutrition disorders	Uncommon	anorexia
Psychiatric disorders	Uncommon	nervousness, abnormal crying, insomnia
Nervous system disorders	Rare	febrile convulsions
Eye disorders	Uncommon	conjunctivitis
Respiratory, thoracic and mediastinal disorders	Uncommon	bronchitis, cough
Gastrointestinal disorders	Uncommon	parotid gland enlargement, diarrhoea, vomiting
Skin and subcutaneous tissue disorders	Common	rash
General disorders and administration site conditions	Very common	redness at the injection site, fever $\geq 38^{\circ}\text{C}$ (rectal) or $\geq 37.5^{\circ}\text{C}$ (axillary/oral)
	Common	pain and swelling at the injection site, fever $> 39.5^{\circ}\text{C}$ (rectal) or $> 39^{\circ}\text{C}$ (axillary/oral)

In general, the frequency category for adverse reactions was similar for the first and second vaccine doses. The exception to this was pain at the injection site, which was "common" after the first vaccine dose, and "very common" after the second vaccine dose.

### ***Post-marketing data***

The following adverse reactions have been identified on rare occasions during post-marketing surveillance. Because they are reported voluntarily from a population of unknown size, a true estimate of frequency cannot be provided.

<b>System Organ Class</b>	<b>Adverse reactions</b>
Infections and infestations	Meningitis, measles-like syndrome, mumps-like syndrome (including orchitis, epididymitis and parotitis)
Blood and lymphatic system disorders	Thrombocytopenia, thrombocytopenic purpura
Immune system disorders	Anaphylactic reactions
Nervous system disorders	Encephalitis*, cerebellitis, cerebellitis like symptoms (including transient gait disturbance and transient ataxia), Guillain-Barré syndrome, transverse myelitis, peripheral neuritis
Vascular disorders	Vasculitis
Skin and subcutaneous tissue disorders	Erythema multiforme
Musculoskeletal and connective tissue disorders	Arthralgia, arthritis

\*Encephalitis has been reported with a frequency below 1 per 10 million doses. The risk of encephalitis following administration of the vaccine is far below the risk of encephalitis caused by natural diseases (measles: 1 in 1,000 to 2,000 cases, mumps: 2-4 in 1,000 cases, rubella: approximately 1 in 6,000 cases).

Accidental intravascular administration may give rise to severe reactions or even shock. Immediate measures depend on the severity of the reaction (see section 4.4 *Special warnings and precautions for use*).

#### **4.9 Overdose**

Cases of overdose (up to 2 times the recommended dose) have been reported during post-marketing surveillance. No adverse reactions have been associated to the overdose.

## **5. PHARMACOLOGICAL PROPERTIES**

### **5.1 Pharmacodynamic properties**

Pharmacotherapeutic group: Viral vaccine, ATC code J07BD52

#### ***Immune response in children 12 months and older***

In clinical studies in children aged from 12 months to 2 years, *PRIORIX* has been demonstrated to be highly immunogenic.

Vaccination with a single dose of *PRIORIX* induced antibodies against measles in 98.1 %, against mumps in 94.4% and against rubella in 100% of previously seronegative vaccines.

Two years after primary vaccination seroconversion rates were 93.4 % for measles, 94.4% for mumps and 100% for rubella.

Although there are no data available concerning the protective efficacy of *PRIORIX*, immunogenicity is accepted as an indication of protective efficacy. However, some field studies report that the effectiveness against mumps may be lower than the observed

seroconversion rates to mumps.

#### **Booster Immunisation:**

A booster dose of *PRIORIX* was administered to children aged 4 - 6 years or 11-12 years, who had been primed with a different MMR vaccine. All subjects aged 4-6 years who were seronegative at the time of booster, subsequently seroconverted. In subjects aged 11-12 years who were seronegative at the time of booster, seroconversion rates of 85.7%, 93.5% and 100% were observed for measles, mumps and rubella respectively.

#### ***Immune response in children aged 9 to 10 months***

A clinical trial enrolled 300 healthy children aged 9 to 10 months of age at the time of first vaccine dose. Of these 147 subjects received *PRIORIX* and *VARILRIX* concomitantly. Seroconversion rates for measles, mumps and rubella were 92.6%, 91.5% and 100% respectively. The seroconversion rates reported following the second dose given 3 months after the first dose were 100% for measles, 99.2% for mumps and 100% for rubella. Therefore, a second dose of *PRIORIX* should be given within three months to provide optimal immune responses.

#### ***Adolescents and adults***

The safety and immunogenicity of a second dose of *PRIORIX* in adolescents and adults has been specifically studied in a clinical trial including subjects of 7 years of age and older. Seroreponse rates for measles, mumps and rubella were 99.5%, 99.8% and 100%, respectively.

#### ***Intramuscular route of administration***

A limited number of subjects received *PRIORIX* intramuscularly in clinical trials. The seroconversion rates to the three components were comparable to those seen after subcutaneous administration.

### **5.2 Pharmacokinetic properties**

An evaluation of pharmacokinetics in vaccines is not necessary.

### **5.3 Preclinical safety data**

Non-clinical data reveal no special hazard for humans based on general safety studies.

## **6 PHARMACEUTICAL PARTICULARS**

### **6.1 List of excipients**

Vaccine (Lyophilized Powder): Amino acids, Lactose (anhydrous), Mannitol & Sorbitol.  
Diluent (Solvent): Water for injections.

Neomycin sulphate is present as a residual from the manufacturing process.

### **6.2 Incompatibilities**



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

### **6.3 Shelf life**

24 months.

The vaccine should be injected promptly after reconstitution. If this is not possible, it must be stored at 2°C - 8°C and used within 8 hours of reconstitution.

The expiry date is indicated on the label & packaging.

### **6.4 Special precautions for storage**

Store and transport refrigerated (2°C - 8°C).

Do not freeze.

Store in the original package in order to protect from light.

For storage conditions after reconstitution of the medicinal product, see section 6.3 *Shelf life*.

Keep out of reach of children.

### **6.5 Nature and contents of container**

Powder in vial (type I glass) sealed with a rubber stopper.

0.5 ml of solution in pre-filled syringe (type I glass) with a plunger stopper (rubber) with or without needles.

OR

0.5 ml of solvent in an ampoule (type I glass).

Pack sizes of 1, 10 or 100.

All pack presentations may not be marketed in the country.

### **6.6 Special precautions for disposal and other handling**

The solvent and the reconstituted vaccine should be inspected visually for any foreign particulate matter and/or variation of physical aspects prior to reconstitution or administration. In the event of either being observed, do not use the solvent or the reconstituted vaccine.

Due to minor variation of its pH, the reconstituted vaccine may vary in colour from clear peach to fuchsia pink without deterioration of the vaccine potency.

*Instructions for reconstitution of the vaccine with solvent presented in ampoules:*

The vaccine must be reconstituted by adding the entire contents of the supplied ampoule of solvent to the vial containing the powder. The mixture should be well shaken until the powder is completely dissolved in the solvent.

Withdraw the entire contents of the vial.

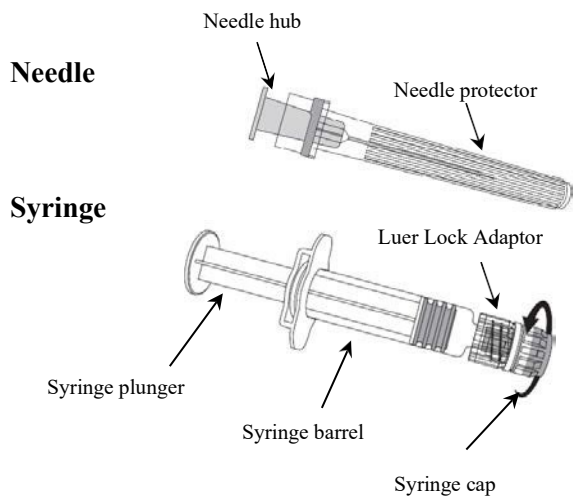
A new needle should be used to administer the vaccine.

Instructions for reconstitution of the vaccine with solvent presented in pre-filled syringes:

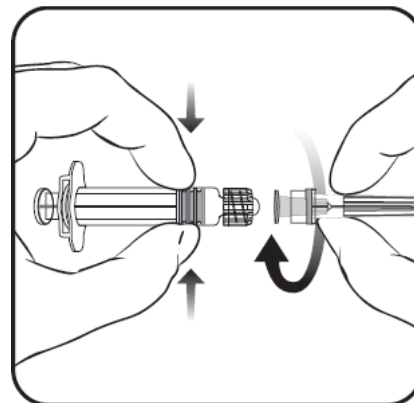
The vaccine must be reconstituted by adding the entire contents of the pre-filled syringe of solvent to the vial containing the powder.

To attach the needle to the syringe, carefully read the instructions given with pictures 1 and 2. However, the syringe provided with *PRIORIX* may be slightly different (without a screw thread) from the syringe illustrated.

In this case, the needle should be attached without screwing.



**Picture 1**



**Picture 2**

Always hold the syringe by the barrel, not by the syringe plunger or the Luer Lock Adaptor (LLA), and maintain the needle in the axis of the syringe (as illustrated in picture 2). Failure to do this may cause the LLA to become distorted and leak.

During assembly of the syringe, if the LLA comes off, a new vaccine dose (new syringe and vial) should be used.

1. Unscrew the syringe cap by twisting it anticlockwise (as illustrated in picture 1).

Whether the LLA is rotating or not, please follow the below steps:

2. Attach the needle to the syringe by gently connecting the needle hub into the LLA and rotate a quarter turn clockwise until you feel it lock (as illustrated in picture 2).
3. Remove the needle protector, which may be stiff.
4. Add the solvent to the powder. The mixture should be well shaken until the powder is completely dissolved in the solvent.
5. Withdraw the entire content of the vial and administer it.
6. A new needle should be used to administer the vaccine. Unscrew the needle from the syringe and attach the injection needle by repeating step 2 above.

Contacts with disinfectants should be avoided (see section 4.4 *Special warnings and precautions for use*).

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

## **7.      MARKETING AUTHORISATION HOLDER**

GlaxoSmithKline Pharmaceuticals Limited.

### **Registered office**

Dr. Annie Besant Road, Worli,  
Mumbai 400 030, India.

## **8.      MARKETING AUTHORISATION NUMBER(S)**

12-32/78-DC

## **9.      DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION**

Date of first authorization: 24<sup>th</sup> March 1999

### **For further information please contact:**

GlaxoSmithKline Pharmaceuticals Limited.

**Registered office**

Dr. Annie Besant Road, Worli  
Mumbai 400 030, India.

Trade marks are owned by or licensed to the GSK group of companies.

*Version PRX/PI/IN/2022/01 dated 20-May-2022.*

*(Adapted from PRIORIX EU SPC approved 19-Dec-2019 (GDS 16/IPI 11 dated 11-Dec-2018).*