

NEW ZEALAND DATA SHEET

1 PRODUCT NAME

Rh(D) Immunoglobulin-VF 250 IU, solution for intramuscular injection

Rh(D) Immunoglobulin-VF 625 IU, solution for intramuscular injection

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Human anti-D (Rh₀) immunoglobulin

Rh(D) Immunoglobulin-VF is a sterile solution containing human plasma protein of which at least 98% is immunoglobulin (mainly IgG), with an anti-D (Rh₀) antibody content of 625 IU per vial/ ≥ 10 mg/mL human plasma proteins or 250 IU per vial/ ≥ 10 mg/mL human plasma proteins.

Rh(D) Immunoglobulin-VF is manufactured from human plasma donated by voluntary donors.

Rh(D) Immunoglobulin-VF contains 22.5 mg/mL glycine.

Rh(D) Immunoglobulin-VF contains no preservatives.

For the full list of excipients, see section 6.1.

3 PHARMACEUTICAL FORM

Solution for injection.

The pH value of the ready-to-use solution is 6.6.

4 CLINICAL PARTICULARS

4.1 Therapeutic indications

Rh(D) Immunoglobulin-VF is indicated for the prevention of Rh sensitisation in Rh(D) negative females at or below child bearing age.

4.2 Dose and method of administration

Dose

Sensitising events in pregnancy (unless the blood type of the foetus is confirmed to be Rh(D) negative)

The recommended dose of anti-D immunoglobulin is:

- 250 IU after sensitising events in the first trimester of pregnancy and
- 625 IU after sensitising events beyond the first trimester.

If the gestational age is not known with certainty and the possibility exists that the gestational age is 13 weeks or more, 625 IU should be given.

In twin and multiple pregnancies in the first trimester, 625 IU should be given.

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The dose should be given as soon as possible and within 72 hours of the event.

Sensitising events include normal delivery, miscarriage, termination of pregnancy, ectopic pregnancy, chorionic villus sampling, amniocentesis, cordocentesis, abdominal trauma considered sufficient to cause foeto-maternal haemorrhage, antepartum haemorrhage and external cephalic version.

Since evidence of the efficacy of these doses is limited, it is recommended that the magnitude of foeto-maternal haemorrhage is assessed and further doses given as necessary. As a guide, a dose of 625 IU will protect against a foeto-maternal haemorrhage of up to 6 mL of Rh(D) positive red blood cells. For haemorrhages greater than 6 mL, the recommended dose is 100 IU per mL Rh(D) positive red blood cells.

Transfusion of Rh(D) positive blood

The recommended dose of anti-D immunoglobulin is:

- 100 IU per mL Rh(D) positive red blood cells.

Method of administration

The product contains no antimicrobial preservative. It must, therefore, be used immediately after opening the vial.

Rh(D) Immunoglobulin-VF should be brought to room temperature before use, and given slowly by deep intramuscular injection using an appropriate sized needle. If a large dose is required, it is advisable to administer it in divided doses at different sites. This applies in the case of doses above 2 mL for children up to 20 kg body weight and doses above 5 mL for persons above 20 kg body weight.

Hyaluronidase and/or a suitable local anaesthetic may be added to the injection if desired.

For further instructions, see section 6.6.

4.3 Contraindications

Rh(D) Immunoglobulin-VF is contraindicated in:

- an Rh(D) positive or D^u positive individual.
- an Rh(D) negative and D^u negative individual previously sensitised to the Rh(D) antigen.
Note: Although there is no benefit in administering Rh(D) Immunoglobulin-VF to a woman who is already sensitised to the Rh factor, there is no more risk than when the product is given to a woman who is not sensitised
- patients who have had a true anaphylactic reaction to the active substance or to any of the components of the product
- patients with Immunoglobulin A (IgA) deficiency, unless they have been tested and shown not to have circulating anti-IgA antibodies, since these patients may experience severe reactions to the IgA which is present in trace amounts

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- patients who have severe thrombocytopenia or any coagulation disorder that would contraindicate intramuscular injections.

4.4 Special warnings and precautions for use

Route of administration

Rh(D) Immunoglobulin-VF MUST NOT be administered intravenously because of the potential for anaphylactic reactions. Injections must be made intramuscularly, and care should be taken to draw back on the plunger of the syringe before injection in order to be certain that the needle is not in a blood vessel.

Hypersensitivity

Rh(D) Immunoglobulin-VF contains trace amounts of IgA which may provoke anaphylaxis in patients with anti-IgA antibodies, such as those with IgA deficiency.

Rh(D) Immunoglobulin-VF should be given with caution to patients with a history of prior systemic allergic reactions following the administration of human immunoglobulin preparations. Rarely, Rh(D) Immunoglobulin-VF can induce a precipitous fall in blood pressure with anaphylactic reaction, even in patients who had tolerated previous treatment with human immunoglobulins. In case of anaphylactic reaction, the treatment should be stopped immediately.

In the case of shock, treatment should follow the guidelines of shock therapy.

Patients should be observed for at least 20 minutes after administration of Rh(D) Immunoglobulin-VF. Particularly in cases of inadvertent intravenous injection, patients should be observed for longer term (at least 1 hour) after administration.

Obesity

There is some evidence that the intramuscular administration of Rh(D) Immunoglobulin-VF in patients with a body mass index (BMI) ≥ 30 is associated with an increased risk of lack of effect. Therefore in these patients, it is recommended that the clearance of foetal cells and the presence of Rh(D) antibody be confirmed post administration.

Pathogen safety

This product is made from human plasma. Products made from human plasma may contain infectious agents, such as viruses and theoretically Creutzfeldt-Jakob Disease (CJD) agents, that can cause disease. The risk that such products will transmit an infectious agent has been reduced by screening plasma donors for prior exposure to certain infectious agents and by testing for the presence of certain viral markers.

In addition, virus removal and inactivation procedures are included in the manufacturing process to reduce the possibility of viral transmission. This includes pasteurisation for viral inactivation and nanofiltration for virus removal. The current procedures applied in the manufacture of this product are effective against enveloped viruses such as human immunodeficiency virus (HIV), hepatitis B virus

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(HBV) and hepatitis C virus (HCV), and the non-enveloped viruses, such as hepatitis A virus (HAV) and human parvovirus B19.

There is no evidence to date that parvovirus B19 can be transmitted by Rh(D) Immunoglobulin-VF and the nanofiltration step of the manufacturing process has been shown to remove such viruses (or viruses of similar size). The product is known to contain antibodies to the virus.

Immunoglobulins for intramuscular injection, prepared by this process from plasma screened by current methods, have not been implicated in the transmission of viral infectious diseases including HIV. Studies using plasma spiked with HIV have shown that the Cohn cold-ethanol fractionation process produces a very large reduction in virus titre with undetectable levels in the immunoglobulin fraction. Epidemiological studies have not recognised any cluster of AIDS patients or HIV seroconversion in immunoglobulin recipients.

Despite these measures, such products may still potentially transmit disease. There is also the possibility that other known or unknown infectious agents may be present in such products.

Vaccination for patients in receipt of medicinal products from human plasma should be considered where appropriate.

It is strongly recommended that every time that Rh(D) Immunoglobulin-VF is administered to a patient, the name and batch number of the product are recorded in order to maintain a link between the patient and the batch of the product.

Genotoxicity and carcinogenicity

No genotoxicity or carcinogenicity studies have been conducted with Rh(D) Immunoglobulin-VF. There have been no reports of such effects associated with the use of CSL Behring's plasma-derived products.

Paediatric population

In case of postnatal use, Rh(D) Immunoglobulin-VF must not be given to the newborn infant. Babies born of women given Rh(D) Immunoglobulin-VF antepartum may have a weakly positive Coombs' test at birth.

4.5 Interaction with other medicines and other forms of interaction

Rh(D) Immunoglobulin-VF should not be mixed with other pharmaceutical products, except as indicated (see section 4.2).

Vaccinations with live attenuated virus vaccines

Passively acquired antibody can interfere with the response to live, attenuated virus vaccines. Therefore, administration of such vaccines, e.g. poliomyelitis or measles, should be deferred until approximately three months after passive immunisation. In the case of measles, the decrease in efficacy may persist for up to one year. Therefore, patients receiving measles vaccine should have their antibody status checked. By the same token, immunoglobulins should not be administered for at least two weeks after such a vaccine has been given.

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Effects on laboratory tests

After injection of immunoglobulin, the transitory rise of the various passively transferred antibodies in the patient's blood may result in misleading positive results in serological testing.

The results of blood typing and antibody testing including the Coombs' test, are significantly affected by the administration of anti-D immunoglobulin through passive transmission of antibodies to erythrocyte antigens (e.g. anti-A, anti-B, anti-D) particularly in Rh(D) positive neonates whose mothers have received antepartum prophylaxis. **When performing red cell antibody screening, take blood prior to the administration of Rh(D) Immunoglobulin-VF.**

4.6 Fertility, pregnancy and lactation

Pregnancy

The safety of this medicinal product for use in human pregnancy has not been established in controlled clinical trials. The use of anti-D immunoglobulin during the third trimester in doses as high as 1500 IU antibody has been reported to produce no evidence of haemolysis in the infant. The presence of passively administered Rh(D) Immunoglobulin-VF in the maternal blood sample can, however, affect the interpretation of laboratory tests to identify the patient as a candidate for Rh(D) Immunoglobulin-VF.

Breast-feeding

The safety of this medicinal product for use during lactation has not been established in controlled clinical trials. Immunoglobulins are excreted in breast milk, however, it is not known whether this applies to passively administered Rh(D) Immunoglobulin VF.

Fertility

No reproductive toxicity studies have been conducted with Rh(D) Immunoglobulin-VF. There have been no reports of such effects associated with the use of CSL Behring's plasma-derived products.

4.7 Effects on ability to drive and use machines

No effects on ability to drive and use machines have been observed.

4.8 Undesirable effects

Summary of the safety profile

Local tenderness, erythema and stiffness may occur at the site of injection and may persist for several hours. This may occur after any intramuscular injection.

Mild pyrexia, malaise, drowsiness and urticaria have been reported occasionally after injections of immunoglobulins. True allergic responses are rare. Skin lesions, headache, dizziness, nausea, generalised hypersensitivity reactions and convulsions have been reported on rare occasions.

Clinical studies

In the clinical trial with Hepatitis B Immunoglobulin, the following general and local reactions were recorded in the 58 healthy subjects (total number of events, up to and including 7 days post injection;

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pasteurised/unpasteurised product): malaise (20/22 events), drowsiness (13/17 events), induration (10/4 events), sensation of fever (4/4 events), chills (3/3 events), sweating (3/1 events) and warmth/heat when touched (0/4 events). There was an overall higher reporting of local tolerance adverse events at the injection site for the unpasteurised product, such as pain (32/52 events), bruising (10/22 events), redness (2/8 events) and irritation (2/4 events).

Paediatric population

The use of this product in the paediatric population has not been established in appropriate studies. To date, this population is not over-represented in spontaneous reports of adverse events associated with the use of CSL Behring's intramuscular immunoglobulin products.

Elderly population

The use of this product in the elderly population has not been established in appropriate studies. To date, this population is not over-represented in spontaneous reports of adverse events associated with the use of CSL Behring's intramuscular immunoglobulin products.

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicine is important. It allows continued monitoring of the benefit/risk balance of the medicine. Healthcare professionals are asked to report any suspected adverse reactions <https://nzphvc.otago.ac.nz/reporting/>

4.9 Overdose

The consequences of overdosage are not known.

For advice on the management of overdose please contact the National Poisons Centre on 0800 POISON (0800 764766).

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: immune sera and immunoglobulins, Anti-D (Rh) immunoglobulin.

ATC code: J06BB01

Rh(D) Immunoglobulin-VF is manufactured from human plasma donated by voluntary donors who have been immunised to the Rh antigen 'D'. Donations are selected on the basis that they contain high levels of antibodies to the Rh antigen 'D'.

Mechanism of action

Rh(D) Immunoglobulin-VF contains high levels of antibodies (mainly IgG) directed against the D antigen of Rh-positive red cells. Rh(D) Immunoglobulin-VF acts by suppressing the immune response in Rh negative individuals to Rh(D) positive red cells. Such exposure follows the passage of cells from the foetal to the maternal circulation or the accidental transfusion of Rh(D) positive red cells to an Rh(D) negative individual.

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Clinical efficacy and safety

A clinical trial with Rh(D) Immunoglobulin-VF has not been conducted.

Clinical studies indicate that the administration of anti-D immunoglobulin to an Rh(D) negative mother within 72 hours of the birth of an Rh(D) positive infant reduces the incidence of Rh isoimmunisation from 12–13% to 1–2%. A small number (1.5–1.8%) of Rh negative mothers are immunised by their Rh positive foetuses despite administration of anti-D immunoglobulin postpartum. Studies have shown that this number can be reduced to less than 1.0% by administering two doses of anti-D immunoglobulin, the first at 28 weeks gestation and the second following delivery.

A comparative clinical trial was conducted to investigate the effect of pasteurisation on the *in vivo* behaviour of intramuscular immunoglobulins using Hepatitis B Immunoglobulin (pasteurised and unpasteurised) as the representative of this group of products. Fifty-eight (58) healthy subjects (28 males and 30 females) each received an intramuscular injection of pasteurised (viral inactivated) or unpasteurised Hepatitis B Immunoglobulin. No significant clinical differences were observed.

Twenty-eight (28) subjects received the viral inactivated product. Maximal serum concentration of IgG was reached after 8.0 ± 5.5 days (mean \pm s.d.), and the estimated half-life of IgG was 27.2 ± 6.6 days (mean \pm s.d.). These values are consistent with ranges observed with other intramuscular immunoglobulin products.

5.2 Pharmacokinetic properties

Absorption and Distribution

The immunoglobulin after intramuscular administration is slowly absorbed into the recipient's circulation and reaches a maximum after a delay of 2 to 3 days. The immunoglobulin has a half-life of about 3 to 4 weeks. This half-life may vary from patient to patient.

Elimination

IgG and IgG-complexes are broken down in cells of the reticuloendothelial system.

5.3 Preclinical safety data

Animal reproduction studies have not been conducted with Rh(D) Immunoglobulin-VF.

Rh(D) Immunoglobulin-VF with normal human IgG as the active ingredient is derived from human plasma and acts like an endogenous constituent of plasma. Preclinical studies with repeated dose applications (chronic toxicity and carcinogenicity) cannot be reasonably performed in conventional animal models due to the development of antibodies following the application of heterologous human proteins.

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6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Glycine (22.5 mg/mL)

Water for injections

6.2 Incompatibilities

This medicine must not be mixed with other medicines, diluents, or solvents except those mentioned in section 4.2.

6.3 Shelf life

2 years

Shelf life after first opening:

The product contains no antimicrobial preservative. It must, therefore, be used immediately after opening the vial.

6.4 Special precautions for storage

Store at 2°C to 8°C (Refrigerate. Do not freeze).

Protect from light.

For storage conditions of the medicine after first opening, see section 6.3.

6.5 Nature and contents of container

Solution in a single glass vial, with a rubber stopper, an aluminium seal and a plastic flip-top cap.

Pack sizes

1 vial with 250 IU anti-D antibody

1 vial with 625 IU anti-D antibody

Rh(D) Immunoglobulin-VF is packaged in latex free materials.

Note: Supplies of suitable plasma for Rh(D) Immunoglobulin-VF production are scarce. Individuals who have Rh(D) antibodies should be urged to enrol as voluntary blood donors.

6.6 Special precautions for disposal and other handling

Rh(D) Immunoglobulin-VF is a sterile, ready-to-use solution.

If the product appears to be turbid by transmitted light or contains any sediment it must not be used.

Any unused solution must be discarded appropriately.

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7 MEDICINE SCHEDULE

Prescription Medicine

8 SPONSOR

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9 DATE OF FIRST APPROVAL

11 February 1999

10 DATE OF REVISION OF THE TEXT

30 September 2021

SUMMARY TABLE OF CHANGES

Section changed	Summary of new information
2	Protein content for 625 IU changed from ≥ 30 mg/mL to ≥ 10 mg/mL
6.5	Variable volume statement removed, as product is now filled to a fixed volume