Summary of Product Characteristics

1 NAME OF THE VETERINARY MEDICINAL PRODUCT

HYPERMUNE-RE Equine Plasma.

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Qualitative Composition Frozen Equine Plasma

Quantitative Composition

Active Substances:		
Equine IgG ≥	24	g/1
Equine Total Protein ≥	50	g/1
Antibodies to Rhodococcus equi standard ≥	40%	VIL
Excipient:		
Acid Citrate Dextrose-A to ensure citrate content	10-20	mmols/1

For a full list of excipients, see section 6.1.

3 PHARMACEUTICAL FORM

Plasma for intravenous infusion, after thawing.

4 CLINICAL PARTICULARS

4.1 Target Species

Foals from 24 hours to six days of age.

4.2 Indications for use, specifying the target species

For foals with Failure of Passive Transfer
To raise the level of circulating IgG in neonatal foals which have been shown to have low levels (less than 4 g/l). The raised level has been demonstrated approximately 24 hours after administration but the duration of the effect is not known.

For foals with Normal Passive Transfer
To raise the level of *Rhodococcus equi* antibodies. The raised level has been demonstrated approximately 24 hours after administration and raised levels though declining generally last for up to 21 days.

4.3 Contraindications

None.

4.4 Special warnings for each target species

It is recommended that appropriate Rhodococcus control measures should be implemented to control disease. Such measures include avoidance of overcrowding, controlling paddock dust levels, provision of shade for the animals, removal of faeces from pastures and close monitoring of foal health.

4.5 Special precautions for use

i) Special precautions for use in animals

- Do not administer more than 2 doses to an animal.
- If a second dose is required do not administer this before 24 hours.
- To reduce risk of adverse reactions:

Transfusion Reactions. Careful monitoring, especially at the start and throughout the transfusion is essential. Distinction must be made between reaction to restraint and catheterisation and signs attributable to transfusion reaction. If tachycardia, hyperventilating or trembling occurs, the transfusion should be slowed down or stopped altogether. If signs abate within five minutes, as they should, then the transfusion should be continued. If they recur again, the transfusion should be stopped entirely.

Anaphylaxis. Careful monitoring, especially at the start and throughout the transfusion, is essential. If tachycardia, hyperventilating or trembling occurs, the transfusion should be slowed down or stopped altogether. If signs abate within five minutes, as they should, then the transfusion should be continued. If they recur again, the transfusion should be stopped entirely. If severe, or other signs occur such as colic, pyrexia, cardiac arrhythmias, urticaria and collapse, the transfusion should be stopped and if necessary epinephrine (0.01 mg/kg), corticosteroids and intravenous saline administered. **These emergency drugs should always be on hand**. Flunixin meglumine at 0.25 mg/kg may be used prophylactically to reduce the incidence of side effects.

Volume Overload. Volume overload is a possible hazard of plasma transfusion especially if the administration is carried out in foals compromised in any way or too quickly. Every foal should be fully clinically examined prior to transfusion and in the case of compromised foals the transfusion should be maintained at a slow rate, 1 litre for a 50 kg foal or pro rata in 1 hour. Careful monitoring throughout the transfusion is essential. If hyperventilating, respiratory distress or trembling occurs, the transfusion should be slowed down or stopped altogether. Diuretics may be used in severe cases.

ii) Special precautions to be taken by the user

Administer only using a blood giving set to minimise risk of self-injection. In case of accidental contact with skin, wash affected areas thoroughly with warm soapy water.

4.6 Adverse reactions (frequency and seriousness)

It should be noted that ACD-A is an excipient and that excess citrate may cause a reaction in the recipient foal. This may be seen as muscle fasciculations, weakness and cardiac abnormalities.

Transfusion Reactions are very rare; signs include tachycardia, hyperventilating and trembling.

Anaphylaxis is very rare, but can occur with products of this nature. Signs include tachycardia, hyperventilating and trembling, or other signs such as colic, pyrexia, cardiac arrhythmias, urticaria and collapse.

Volume Overload is a rare hazard of plasma transfusion especially if the administration is carried out in foals compromised in any way or too quickly. Signs include respiratory distress, hyperventilation, staggering and collapse when in standing restraint. Additionally, if the foal is in lateral recumbency froth may be seen at the nostril.

Measures to avoid these adverse reactions are detailed in section 4.5

4.7 Use during pregnancy, lactation or lay

Do not use in pregnant or lactating horses.

4.8 Interaction with other medicinal products and other forms of interaction

Safety and efficacy data are available which demonstrate that Hypermune-RE can be administered on the same day but not mixed with tetanus antitoxin.

No information is available on the safety and efficacy of Hypermune-RE when used with any other veterinary medicinal product except the product mentioned above. A decision to use this product before or after any other veterinary medicinal product therefore needs to be made on a case by case basis.

As with colostrum derived passive immunity, the passive immunity transferred by Hypermune-RE may interfere with response to vaccine. It is recommended that this is considered when starting a vaccine programme with due adherence to the vaccine manufacturer's instructions.

4.9 Amounts to be administered and administration route

For foals with Failure of Passive Transfer
Hypermune-RE may be administered to foals from 24 hours to 6 days of age where it has been shown after testing that they have low levels of serum IgG (less than 4 g/l). The dose required is one litre for a 50 kg foal (and pro rata, i.e. 20 ml per kg).

A blood sample should be collected from the foal approximately 24 hours later and re-tested for the level of serum IgG. If this is still low, a further dose may be administered. This should be given within 24 – 48 hours of the first administration and be given in the same manner as the first (intravenously, via a blood giving set, over 15 - 20 minutes).

For foals with Normal Passive Transfer
The dose required is one litre for a 50 kg foal (and pro rata, i.e. 20 ml per kg). To sustain raised levels of circulating Rhodococcus equi antibodies a second dose may be given at approximately 21 days later. This should be given in the same manner as the first (intravenously, via a blood giving set, over 15 - 20 minutes).

Method of administration
The required dose is administered via a catheter placed in the jugular vein using a blood giving set equipped with a mesh filter. The product should be administered slowly, particularly at the start, and administration should take 15 – 20 minutes. Throughout the administration, the foal should be monitored for signs of adverse reactions.

Thawing should not take place in a microwave oven. The litre bag of plasma should be immersed only in warm water at not more than 40ºC. A water bath such as a sink full of domestic warm water is ideal. As the plasma thaws and the water cools, more warm water may be added as required but hot water (not greater than hand hot) must be avoided as it will damage the proteins. The entire litre of plasma should be brought slowly to body temperature before use to ensure all the cryoprecipitate is dissolved. Under optimum conditions this whole process may take 2-2½ hours. Occasionally small amounts of fibrin may still be seen floating in the plasma. It is not significant but must be filtered out by the filter in the blood administration set.

Inspect for leakage and if apparent on thawing the entire contents must be discarded.

4.10 Overdose (symptoms, emergency procedures, antidotes), if necessary

No information is available on the effects of administering an overdose

Volume overload in foals

Volume overload is a rare but possible hazard of plasma transfusion especially if the administration is carried out in foals compromised in any way or too quickly.

4.11 Withdrawal Period(s)

Zero days

5 PHARMACOLOGICAL or IMMUNOLOGICAL PROPERTIES

To modulate the immune system by providing equine immunoglobulins, and specific antibodies to *Rhodococcus equi.* From limited field studies there is a trend of reduced severity of *R.equi* disease and a reduced requirement for intensive antibiotic treatment with the use of Hypermune RE by the recommended schedule.

ATCvet code: QI05AM

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Acid Citrate Dextrose-A

6.2 Incompatibilities

Do not mix with any other veterinary medicinal product.

6.3 Shelf-life

Shelf-life of the veterinary medicinal product as packaged for sale: 2 years
Shelf-life once thawed: 24 hours

6.4 Special precautions for storage

Store in a freezer (-30°C to -20°C)

HYPERMUNE-RE should be handled carefully when being unpacked and stored in the freezer. The bubble-wrap should not be removed as it protects the brittle frozen plastic which is susceptible to damage from careless handling such as being dropped or knocked in the freezer. When thawed it should be stored in a refrigerator.

6.5 Nature and composition of immediate packaging

The container is a PVC with DEHP one-litre human plasma sterile transfer bag with two protective sterile ports. The whole bag is over wrapped with protective bubble wrap for storage and transport.

6.6 Special precautions for the disposal of unused veterinary medicinal products or waste materials

Any unused veterinary medicinal product or waste materials derived from such veterinary medicinal product should be disposed of in accordance with local requirements

7 MARKETING AUTHORISATION HOLDER

Veterinary Immunogenics Ltd
Carleton Hill
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Cumbria
CA11 8TZ
United Kingdom

8 MARKETING AUTHORISATION NUMBER(S)

VPA 10662/001/001

9 DATE OF THE FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

18th May 2012

10 DATE OF REVISION OF THE TEXT