

## 1. NAME OF THE MEDICINAL PRODUCT

## Omr-IgG-am™ 5%

## 2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Human normal immunoglobulins 50 mg/ml. Solution for infusion.  
Each bottle of 50 ml contains 2.5 g of human normal immunoglobulins.  
Each bottle of 100 ml contains 5 g of human normal immunoglobulins.  
Each bottle of 200 ml contains 10 g of human normal immunoglobulins.

## Composition

Omr-IgG-am™ 5% is a sterile solution containing 5% protein (50 mg in 1 ml solution of which at least 95% is human normal immunoglobulin G (IgG) as the active ingredient), 10% maltose and water for injections. The immunoglobulin A (IgA) content is ≤ 0.15 mg/ml.

Omr-IgG-am™ 5% does not contain sucrose. No preservatives are added.

## Description

Omr-IgG-am™ 5% is manufactured from human plasma by Cohn (ethanol) fractionation (this step has been shown in literature to be a primary virus inactivation step). After a first ultra-/diafiltration, the product undergoes a second virus inactivation step by the solvent/detergent method using TnBP/Triton-X-100, and a third inactivation by nanofiltration at pH 4. The manufacturing process includes a specific step to remove detectable thrombosis-generating agents (see section 4.4 "Special warnings and precautions for use").

## 3. PHARMACEUTICAL FORM

Solution for infusion.

Omr-IgG-am™ 5% is a clear or slightly opalescent and colorless or pale yellow solution for intravenous infusion.

## 4. CLINICAL PARTICULARS

## 4.1 Therapeutic indications

- Primary immunodeficiency (patients with primary defective antibody synthesis such as agammaglobulinemia or hypogammaglobulinemia)
- Myeloma or Chronic Lymphocytic Leukemia (CLL) with severe secondary hypogammaglobulinemia and recurrent infections
- Children with congenital AIDS and recurrent infections
- Immunomodulation
- Idiopathic Thrombocytopenic Purpura (ITP)
- Guillain-Barré syndrome
- Kawasaki disease
- Allogeneic Bone Marrow Transplantation

## 4.2 Posology and method of administration

- Omr-IgG-am™ 5% should be infused intravenously at an initial rate of 0.01-0.02 ml/kg/min for 15 minutes.
- Infusion rate may increase gradually to a maximum of 0.08 ml/kg/min.

## Dosage

The dose and dosage regimen is dependent on the indication.

In replacement therapy, the dosage may need to be individualized for each patient, dependent on the pharmacokinetic and clinical response. The following dosage regimens are given as a guideline.

## Replacement therapy

Replacement therapy in Primary Immunodeficiency

The dosage regimen should achieve a trough level of immunoglobulin G (IgG) (measured before the next infusion) of at least 5-6 g/L. Three to six months are required after the initiation of therapy for equilibration to occur. The recommended starting dose is 0.4-0.8 g/kg depending on the circumstances (e.g., active infection) followed by at least 0.2 g/kg every three to four weeks.

The dose required to achieve a trough level of 5-6 g/L is of the order of 0.2-0.8 g/kg/month.

The dosage interval when steady state has been reached varies from 3-4 weeks.

Replacement therapy in Myeloma or Chronic Lymphocytic Leukemia with severe secondary hypogammaglobulinemia and recurrent infections; replacement therapy in children with AIDS and recurrent infections

The recommended dose is 0.2-0.4 g/kg every three to four weeks.

## Immunomodulation

Idiopathic Thrombocytopenic Purpura

For the treatment of an acute episode, 0.8-1 g/kg on day one, repeated on day three if necessary, or 0.4 g/kg/day for two to five days. The treatment can be repeated if relapse occurs. In the first treatment regimen, if an adequate increase in the platelet count is observed at 24 hours, the second dose of 1,000 mg/kg body weight may be withheld.

The high dose regimen (1,000 mg/kg x 1-2 days) is not recommended for individuals with expanded fluid volumes or where fluid volume may be a concern.

Guillain-Barré syndrome

0.4 g/kg/day for 3 to 5 days. Experience in children is limited.

Kawasaki disease

1.6-2.0 g/kg should be administered in divided doses over two to five days or 2.0 g/kg as a single dose. Patients should receive concomitant treatment with acetylsalicylic acid.

## Allogeneic Bone Marrow Transplantation

Human normal immunoglobulin treatment can be used as part of the conditioning regimen before and after the transplant.

For the treatment of infections and prophylaxis of graft-versus-host disease, dosage is individually tailored. The starting dose is normally 0.5 g/kg/week, starting seven days before transplantation and for up to 3 months after transplantation. In case of persistent lack of antibody production, dosage of 0.5 g/kg/month is recommended until antibody level returns to normal.

## The dosage recommendations are summarized in the following table

Indication	Dose	Frequency of Injections
<b>Replacement Therapy</b>		
Primary Immunodeficiency	Starting Dose: 0.4-0.8 g/kg Thereafter: 0.2-0.8 g/kg	Every 3-4 weeks to obtain IgG trough level of at least 5-6 g/L
Myeloma or Chronic Lymphocytic Leukemia	0.2-0.4 g/kg	Every 3-4 weeks to obtain IgG trough level of at least 5-6 g/L
Children with AIDS	0.2-0.4 g/kg	Every 3-4 weeks
<b>Immunomodulation</b>		
Idiopathic Thrombocytopenic Purpura	0.8-1.0 g/kg or 0.4 g/kg/day	On day 1, possibly repeated once within 3 days For 2-5 days
Guillain-Barré syndrome	0.4 g/kg/day	For 3-5 days
Kawasaki disease	1.6-2 g/kg or 2 g/kg	In divided doses for 2-5 days in association with acetylsalicylic acid In one dose in association with acetylsalicylic acid
<b>Allogeneic Bone Marrow Transplantation</b>		
Treatment of infections and prophylaxis of graft-versus-host disease	0.5 g/kg	Every week from day 7 up to 3 months after transplantation
Persistent lack of antibody production	0.5 g/kg	Every month until antibody levels return to normal

## Overdose

Overdose may lead to fluid overload and hyperviscosity, particularly in patients at risk, including elderly patients or patients with cardiac or renal impairment.

## 4.3 Contraindications

Hypersensitivity to the active substance or to any of the excipients listed in section 6.1.

Omr-IgG-am™ 5% is contraindicated in individuals who are known to have anaphylactic or severe systemic response to intramuscular or intravenous immunoglobulin preparations or to any of the excipients.

As with other immunoglobulin preparations, Omr-IgG-am™ 5% should not be given to patients with antibodies to IgA or selective IgA deficiency.

## 4.4 Special warnings and precautions for use

Any vial that has been entered should be used promptly. Partially used vials should be discarded. Do not use if turbid.

Solutions which have been frozen should not be used.

Adequate hydration prior to the initiation of IV Ig infusion is required.

Potential complications can often be avoided by ensuring that patients:

- Are not sensitive to human immunoglobulin by initially injecting the product slowly.
- Are carefully monitored for any symptoms throughout the infusion period. In particular, patients naive to human immunoglobulin, patients switched from an alternative IV Ig product or when there has been a long interval since the previous infusion should be monitored during the first infusion and for the first hour after the first infusion, in order to detect potential adverse signs. All other patients should be observed for at least 20 minutes after administration.

Certain severe adverse drug reactions may be related to the rate of infusion; therefore, recommended infusion rate given under section 4.2 "Posology and method of administration" must be closely followed.

In all patients, IV Ig administration requires:

- adequate hydration prior to the initiation of the infusion of IV Ig
- monitoring of urine output
- monitoring of serum creatinine levels
- avoidance of concomitant use of loop diuretics

## Patients naïve to immunoglobulin G (IgG)

Patients naïve to immunoglobulin G (IgG) usually experience a higher frequency of events than those well maintained on regular therapy. The recommended infusion rate given under section 4.2 "Posology and method of administration" must be closely followed and patients must be closely monitored and carefully observed for any symptoms throughout the infusion period, and for 1 hour after the first infusion. In case of adverse reactions, either the rate of administration must be reduced or the infusion stopped until symptoms disappear.

If severity of reactions persists after discontinuation of the infusion, appropriate treatment is recommended.

In case of anaphylactic reaction or shock, treatment should follow the guidelines for shock therapy. Epinephrine should be available for the treatment of any acute anaphylactic reactions.

## Patients with agammaglobulinemia or extreme hypogammaglobulinemia

Patients with agammaglobulinemia or extreme hypogammaglobulinemia who have not received immunoglobulin therapy within the preceding 8 weeks may be at risk of developing inflammatory reactions upon the infusion of human immunoglobulins. These reactions are manifested by a rise in temperature, chills, nausea and vomiting, and appear to be related to the rate of infusion.

## Hypersensitivity

True hypersensitivity reactions are rare.

Anaphylaxis can develop in patients

- with undetectable IgA who have anti-IgA antibodies
- who had tolerated previous treatment with human normal immunoglobulin

IV Ig is not indicated in patients with selective IgA deficiency where the IgA deficiency is the only abnormality of concern.

Rarely, human normal immunoglobulin can induce a fall in blood pressure with anaphylactic reaction, even in patients who had tolerated previous treatment with human normal immunoglobulin.

## Acute Renal Failure

Cases of acute renal failure have been reported in patients receiving IV Ig therapy. In most cases, risk factors have been identified, such as pre-existing renal insufficiency, systemic lupus erythematosus, diabetes mellitus, hypovolaemia, overweight, concomitant nephrotoxic medicinal products or age over 65.

Renal parameters should be assessed prior to infusion of IV Ig, particularly in patients judged to have a potential increased risk for developing acute renal failure, and again at appropriate intervals.

In patients with the above risk factors, creatinine levels should be measured for 3 days after intravenous immunoglobulin infusion. In patients at risk of acute renal failure, IV Ig products should be administered at the minimum rate of infusion and dose practicable.

In case of renal impairment, IV Ig discontinuation should be considered.

## Hemolysis

Heightened awareness of the potential for hemolysis is recommended in individuals receiving immunoglobulin products, particularly those who are determined to be at increased risk.

Patients at increased risk for hemolysis following treatment with immunoglobulins include those with non-O blood group types, those who have underlying associated inflammatory conditions, and those receiving high cumulative doses of immunoglobulins over the course of several days.

Patients receiving immunoglobulin products should be monitored for clinical signs and symptoms of haemolysis, particularly those at increased risk.

Clinical symptoms and signs of hemolysis include fever, chills and dark urine. If these occur, appropriate laboratory testing should be obtained.

IV Ig products can contain blood group antibodies which may act as haemolysins and induce *in vivo* coating of red blood cells (RBC) with immunoglobulin, causing a positive direct antiglobulin reaction (Coombs' test) and, rarely, haemolysis. Haemolytic anaemia can develop subsequent to IV Ig therapy due to enhanced RBC sequestration.

## Neutropenia/Leukopenia

A transient decrease in neutrophil count and/or episodes of neutropenia, sometimes severe, have been reported after treatment with IV Ig. This typically occurs within hours or days after IV Ig administration and resolves spontaneously within 7 to 14 days.

## Transfusion related acute lung injury (TRALI)

In patients receiving IV Ig, there have been rare reports of acute non-cardiogenic pulmonary oedema (Transfusion Related Acute Lung Injury (TRALI)). TRALI is characterised by severe hypoxia, dyspnoea, tachypnoea, cyanosis, fever and hypotension. Symptoms of TRALI typically develop during or within 6 hours of a transfusion, often within 1-2 hours. Therefore, IV Ig recipients must be monitored for and IV Ig infusion must be immediately stopped in case of pulmonary adverse reactions. TRALI is a potentially life-threatening condition requiring immediate intensive care unit management.

## Interference with serological testing

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

Possible transmission of antibodies to erythrocyte antigens, e.g., A, B, D may interfere with some serological tests for red cell antibodies for example the direct Coombs' test.

## Thromboembolic events

Despite the new step to remove detectable thrombosis-generating agents, there is clinical evidence of an association between IV Ig administration and thromboembolic events such as myocardial infarction, cerebral vascular accident (including stroke), pulmonary embolism and deep vein thrombosis which is assumed to be related to a relative increase in blood viscosity through the high influx of immunoglobulin in at-risk patients. Care should be used when immunoglobulin products are given to individuals determined to be at increased risk of thrombosis.

Caution should be exercised in prescribing and infusing IV Ig in obese patients and in patients with pre-existing risk factors for thromboembolic events (such as acquired or hereditary hypercoagulable states, prolonged immobilization, in-dwelling vascular catheters, advanced age, estrogen use, hypertension, diabetes mellitus and a history of venous or arterial thrombosis, cardiovascular risk factors (including history of atherosclerosis and/or impaired cardiac output) and hypercoagulability) (including gammopathy), vascular disease or thrombotic episodes, acquired or inherited thrombophilic disorders, or patients with prolonged periods of immobilization, severe hypovolemia, or with diseases which increase blood viscosity).

Patients at risk for thrombosis should receive immunoglobulin products at the slowest infusion rate practicable, and these individuals should be monitored for thrombotic complications. Consideration should also be given to measurement of baseline blood viscosity in individuals at risk for hypercoagulability.

## Aseptic meningitis syndrome (AMS)

An aseptic meningitis syndrome (AMS) has been reported to occur infrequently in association with immunoglobulin intravenous (human) treatment. The syndrome usually begins within several hours to two days after infusion. It is characterized by symptoms and signs including severe headache, nuchal rigidity, drowsiness, fever, photophobia, painful eye movements, nausea and vomiting. Cerebrospinal fluid studies are frequently positive with pleocytosis up to several hundred cells/ml, protein levels and elevated protein levels up to several hundred mg/dl. Patients exhibiting such symptoms and signs should receive a thorough neurological examination, including a CSF study to rule out other causes of meningitis. AMS may occur more frequently in association with high-dose (2g/kg) immunoglobulin intravenous (human) treatment.

Discontinuation of immunoglobulin intravenous (human) treatment has resulted in remission of AMS within several days without sequelae.

## Transmissible agents

Products made from plasma may contain infectious agents, such as viruses, that can cause disease. The risk that such products will transmit an infectious agent has been reduced by effective donor screening, testing for the presence of certain current virus infections, by inactivating and/or removing certain viruses. Despite these measures, such products can still potentially transmit diseases. Because this product is made from human blood, it may carry a risk of transmitting infectious agents, e.g., viruses, and theoretically the Creutzfeldt-Jakob disease (CJD) agent. It is strongly recommended that every time that Omr-IgG-am™ 5% is administered to a patient, the name and batch number of the product be recorded in order to maintain a link between the patient and the batch of the product. For this purpose a sticker with the batch number will be added to each Omr-IgG-am™ 5% vial.

See section 4.5 "Interactions with other medicinal products and other forms of interaction" for information regarding blood glucose testing.

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

Live attenuated virus vaccines may impair for a period of at least 6 weeks and up to 3 months the efficacy of live attenuated virus vaccines such as measles, rubella, mumps and varicella. After administration of this medicinal product, these intervals may persist for up to 1 year with the live attenuated virus vaccines. In the case of measles, rubella, mumps and varicella, the immune response to the vaccine may be reduced.

## Interference with serological testing

Tests, e.g., Coombs' test, haemagglutination to erythrocyte antigen, e.g., A, B or D, may interfere with some serological

## Blood glucose testing

Testing for blood glucose may be inaccurate if the blood glucose concentration is high. The blood glucose concentration may be falsely high if the blood glucose concentration is low. The blood glucose concentration may be falsely low if the blood glucose concentration is high. The blood glucose concentration may be falsely high if the blood glucose concentration is low. The blood glucose concentration may be falsely low if the blood glucose concentration is high. The blood glucose concentration may be falsely high if the blood glucose concentration is low. The blood glucose concentration may be