Table 2 in vitro reduction factor of ALBUMIN (HUMAN) 5% manufacturing process

<table>
<thead>
<tr>
<th>Step Description</th>
<th>Enveloped viruses</th>
<th>Non-enveloped viruses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production step 1</td>
<td>Not done</td>
<td>2.51</td>
</tr>
<tr>
<td>Production step 2</td>
<td>Not done</td>
<td>7</td>
</tr>
<tr>
<td>Production step 3</td>
<td>Not done</td>
<td>0.3</td>
</tr>
<tr>
<td>Production step 4</td>
<td>Not done</td>
<td>0.6</td>
</tr>
<tr>
<td>Final reduction</td>
<td>11.60</td>
<td>14.36</td>
</tr>
</tbody>
</table>

14 CLINICAL STUDIES

14.1 Clinical studies with ALBUMIN (HUMAN) 5% have been conducted.

15 REFERENCES


16 HOW SUPPLIED/STORAGE AND HANDLING

16.1 ALBUMIN (HUMAN) 5% is supplied in 5.0 g in 100 mL, 12.5 g in 250 mL or 25.0 g in 500 mL single-use bottles.

16.2 Pharmacodynamics

16.2.1 Mechanism of Action

16.2.2 Pharmacokinetics

16.2.3 Dosage and Administration

16.3 Evidence of Safety

16.4 Contraindications

16.5 Precautions

16.6 Adverse Reactions

16.7 Use in Specific Populations

16.8 Pediatric Use

16.9 Nursing Mothers

16.10 Use in Geriatric Patients

17 PATIENT COUNSELING INFORMATION

18 PATIENT COUNSELING INFORMATION

19 USE IN SPECIFIC POPULATIONS

20 ADVERSE REACTIONS

21 CLINICAL PHARMACOLOGY

22 DOSAGE AND ADMINISTRATION

23 CONTRAINDICATIONS

24 PRECAUTIONS

25 WARNINGS AND PRECAUTIONS

26 CLINICAL STUDIES

27 CLINICAL STUDIES

28 DOSAGE AND ADMINISTRATION

29 USE IN SPECIFIC POPULATIONS

30 ADVERSE REACTIONS

31 CLINICAL PHARMACOLOGY

32 CONTRAINDICATIONS

33 PRECAUTIONS

34 WARNINGS AND PRECAUTIONS

35 CLINICAL STUDIES

36 CLINICAL STUDIES

37 CLINICAL STUDIES

38 CLINICAL STUDIES

39 CLINICAL STUDIES

40 CLINICAL STUDIES

41 CLINICAL STUDIES

42 CLINICAL STUDIES

43 CLINICAL STUDIES

44 CLINICAL STUDIES

45 CLINICAL STUDIES

46 CLINICAL STUDIES

47 CLINICAL STUDIES

48 CLINICAL STUDIES

49 CLINICAL STUDIES

50 CLINICAL STUDIES

51 CLINICAL STUDIES

52 CLINICAL STUDIES

53 CLINICAL STUDIES

54 CLINICAL STUDIES

55 CLINICAL STUDIES

56 CLINICAL STUDIES

57 CLINICAL STUDIES

58 CLINICAL STUDIES

59 CLINICAL STUDIES

60 CLINICAL STUDIES

61 CLINICAL STUDIES

62 CLINICAL STUDIES

63 CLINICAL STUDIES

64 CLINICAL STUDIES

65 CLINICAL STUDIES

66 CLINICAL STUDIES

67 CLINICAL STUDIES

68 CLINICAL STUDIES

69 CLINICAL STUDIES

70 CLINICAL STUDIES

71 CLINICAL STUDIES

72 CLINICAL STUDIES

73 CLINICAL STUDIES

74 CLINICAL STUDIES

75 CLINICAL STUDIES

76 CLINICAL STUDIES

77 CLINICAL STUDIES

78 CLINICAL STUDIES

79 CLINICAL STUDIES

80 CLINICAL STUDIES

81 CLINICAL STUDIES

82 CLINICAL STUDIES

83 CLINICAL STUDIES

84 CLINICAL STUDIES

85 CLINICAL STUDIES

86 CLINICAL STUDIES

87 CLINICAL STUDIES

88 CLINICAL STUDIES

89 CLINICAL STUDIES

90 CLINICAL STUDIES

91 CLINICAL STUDIES

92 CLINICAL STUDIES

93 CLINICAL STUDIES

94 CLINICAL STUDIES

95 CLINICAL STUDIES

96 CLINICAL STUDIES

97 CLINICAL STUDIES

98 CLINICAL STUDIES

99 CLINICAL STUDIES

100 CLINICAL STUDIES

101 CLINICAL STUDIES

102 CLINICAL STUDIES

103 CLINICAL STUDIES

104 CLINICAL STUDIES

105 CLINICAL STUDIES

106 CLINICAL STUDIES

107 CLINICAL STUDIES

108 CLINICAL STUDIES

109 CLINICAL STUDIES

110 CLINICAL STUDIES

111 CLINICAL STUDIES

112 CLINICAL STUDIES

113 CLINICAL STUDIES

114 CLINICAL STUDIES

115 CLINICAL STUDIES

116 CLINICAL STUDIES

117 CLINICAL STUDIES

118 CLINICAL STUDIES

119 CLINICAL STUDIES

120 CLINICAL STUDIES

121 CLINICAL STUDIES

122 CLINICAL STUDIES

123 CLINICAL STUDIES

124 CLINICAL STUDIES

125 CLINICAL STUDIES

126 CLINICAL STUDIES

127 CLINICAL STUDIES

128 CLINICAL STUDIES

129 CLINICAL STUDIES

130 CLINICAL STUDIES

131 CLINICAL STUDIES

132 CLINICAL STUDIES

133 CLINICAL STUDIES

134 CLINICAL STUDIES

135 CLINICAL STUDIES

136 CLINICAL STUDIES

137 CLINICAL STUDIES

138 CLINICAL STUDIES

139 CLINICAL STUDIES

140 CLINICAL STUDIES

141 CLINICAL STUDIES

142 CLINICAL STUDIES

143 CLINICAL STUDIES

144 CLINICAL STUDIES

145 CLINICAL STUDIES

146 CLINICAL STUDIES
After 24 hours, ALBUMIN (HUMAN) 5% may be added at volumes of crystalloid injection to maintain plasma volume.

The body albumin deficit must be considered when determining the amount of albumin necessary to achieve an adequate correction.

In adults, intravenous infusion of 50 to 75 g of ALBUMIN (HUMAN) 5% may be used.

In spite of limited information about the efficacy in pediatric subjects, an intravenous infusion of 2.5 g per kg of body weight of ALBUMIN (HUMAN) 5% may be used to maintain cardiovascular function following the removal of large volumes of acute fluid after a serious injury.

The dose required depends on the body weight of the patient, the severity of trauma or illness and the concentration of the albumin preparation, dose and the infusion rate. The dose and rate of albumin infusion should be adjusted to the patient's individual requirements and the clinical response.

If comparatively large volumes are to be replaced, monitoring of coagulation and hematocrit is necessary. Ensure adequate substitution of other blood constituents (coagulation factors, electrolytes, platelets and erythrocytes).

Do not dilute with sterile water for injection.

When albumin is given, monitor the electrolyte status of the patient and take appropriate steps to correct electrolyte abnormalities. Hemorrhagic shock, anaphylactic shock or cardiac failure may result if patients are already hypovolemic.

When albumin is used, the efficiency in replenishing fluid in conscious subjects, can be expected to be 2.5 to 2.9 g (0.5 to 0.7 g per kg). A normal, healthy subject may achieve 1 g (0.25 g per kg) per hour. If a response cannot be achieved, an additional dose may be given. Hemorrhagic shock may follow administration of ALBUMIN (HUMAN) 5%.

Hypersensitivity/Hemolysis

Hypersensitivity may occur at doses which do not exceed the volume of the patient. In the first clinical signals of possible cardiovascular decompensation, e.g., headache, diaphoresis, increased blood pressure, rapid heart rate, hypotension, pulmonary edema, the infusion should be stopped immediately and the patient resuscitated. Albumin should be used with caution in conditions where hypersensitivity and its consequences or hemolysis could represent a special threat. Examples of such conditions are:

- Inadequate and rapidly developing circulatory shock
- Hypersensitivity
- Nausea and vomiting
- Headache
- Chills
- Hyperpyrexia
- Faintness and postural anemia

The most common adverse events are anaphylactoid type of reactions.

5.2 Hypervolemia/Hemodilution

Hypervolemia may occur if the dosage and rate of infusion are not adjusted to the patient's volume status. At the first clinical signs of possible cardiovascular decompensation, e.g., headache, diaphoresis, increased blood pressure, rapid heart rate, hypotension, pulmonary edema, the infusion should be stopped immediately and the patient resuscitated. Albumin should be used with caution in conditions where hypersensitivity and its consequences or hemolysis could represent a special threat. Examples of such conditions are:

- Inadequate and rapidly developing circulatory shock
- Hypersensitivity
- Nausea and vomiting
- Headache
- Chills
- Hyperpyrexia
- Faintness and postural anemia

5.3 Electrolyte Imbalance

In adults, intravenous infusion of 0.8 g of ALBUMIN (HUMAN) 5% may be given for every 1,000 mL of acute fluid removed.

5.4 Coagulation Abnormalities

If comparatively large volumes are to be replaced, monitoring of coagulation and hematocrit is necessary.

5.5 Laboratory Monitoring

If ALBUMIN (HUMAN) 5% is to be administered, monitor hematographic performance regularly, this may include:

- Blood cell counts
- Hemoglobin
- Platelet counts
- Serum electrolytes
- Liver function tests
- Urea and creatinine

5.6 Application Precautions

If ALBUMIN (HUMAN) 5% is to be administered, monitor hematologic performance regularly, this may include:

- Blood cell counts
- Hemoglobin
- Platelet counts
- Serum electrolytes
- Liver function tests
- Urea and creatinine

6 ADVERSE REACTIONS

6.1 General

The most serious events are anaphylactic shock, circulatory failure, cardiac failure, and pulmonary edema.

6.2 Clinical Studies Experience

No clinical studies were done using ALBUMIN (HUMAN) 5%.

6.3 Postmarketing Experience

The following adverse reactions have been identified during post-approval use of ALBUMIN (HUMAN) 5%.

6.4 Pregnancy

It is not known whether this drug is secreted in human milk. ALBUMIN (HUMAN) 5% should be given to nursing mothers only if necessary.

6.5 Nursing Mothers

It is also not known whether ALBUMIN (HUMAN) 5% can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity.

6.6 Lactation

ALBUMIN (HUMAN) 5% should be given during labor or delivery only if necessary.

6.7 Effect on Ability to Drive or Operate Machines

ALBUMIN (HUMAN) 5% is indicated in the emergency treatment of hypovolemia with or without shock.

6.8 Incompatibilities

ALBUMIN (HUMAN) 5% is supplied in a sterile, pyrogen-free formulation, or components of the container.

7 DRUG INTERACTIONS

No drug interaction studies have been conducted.

8 USE IN SPECIFIC POPULATIONS

8.1 Children

No clinical studies included subjects aged 18 and younger. There was no evidence of a different adverse reaction profile in pediatric subjects.

8.2 Pregnancy

ALBUMIN (HUMAN) 5% is a sterile, liquid preparation of albumin derived from large pools of human plasma. All units of human plasma used in the manufacture of ALBUMIN (HUMAN) 5% are manufactured by a viral inactivation in an additional bulk pasteurization process. These reductions are achieved through a combination of hypothermic steps including Cohn fractionation and final container pasteurization process. No procedures, however, has been shown to be completely effective in removing viral infectivity from derivatives of human plasma (see Warnings and Precautions, Infection Risk / Human Rabies Virus (5))