

¹³¹I albumin

¹³¹I HSA, iodinated ¹³¹I albumin injection

1. Indications

¹³¹I-Albumin injection is not an approved product in the Netherlands. Indications are determination of plasma volume and total blood volume and examination of albumin turnover.

2. Preparation

¹³¹I-Albumin is supplied as a solution for injection.

3. Quality control

The US Pharmacopeia has a monograph for *Human albumin injection, iodinated (¹³¹I)*.

Limits:

- pH = 7,0-8,5
- Radionuclidic purity: minimum 97,0% of total radioactivity
- Radiochemical purity: Place a measured volume, diluted with a suitable diluent so it provides a count rate of about 20.000 counts per min, about 25 mm from one end of a 25x300 mm chromatographic paper and allow to dry. Develop over a period of about 4 h using methanol (70%) and air-dry.
- Limit: ≥95% is ¹³¹I albumin (Rf=0)

4. Interactions

No data

5. Contraindications

¹³¹I-albumin contains benzylalcohol, which may cause serious reactions in premature and low birth-weight infants. The European Medicines Agency (EMA) and the Dutch College ter Beoordeling van Geneesmiddelen (CBG) have published guidelines on the maximum amount of benzylalcohol that should be used. The CBG advises a maximum amount of 90mg/kg body weight.

6. Adverse reactions

With the administration of iodinated human albumin, allergic and febrile reactions have been reported. Manifestations include fever, dizziness, nausea, vomiting, tachycardia, hypotension and urticaria.

7. Biodistribution & pharmacokinetics

Distribution Sites

¹³¹I Iodinated albumin is uniformly distributed throughout the intravascular system within 10 min after intravenous injection. Iodinated ¹³¹I-albumin can be detected in the lymph within 10 min after intravenous injection. Maximal distribution through this extravascular space does not occur until 2-4 days after administration

¹³¹I-iodinated I albumin is eliminated almost entirely in the urine. A small percentage (about 2%) of the total dose appears in the feces. In normal subjects, the *biological* half-life of iodinated ¹³¹I albumin has been reported to be approximately 14 days. The half-life has varied considerably amongst published studies, ranging from less than 10 days to over 20 days. Different factors can affect the half-life of the labeled albumin. For example, the quality of the labeled albumin can affect the initial rate of excretion

8. Stability

Store in a refrigerator (2-8°C).

9. Literature

- United States Pharmacopeia monograph Iodinated I 131 albumin injection.
- Micromedex, Truven Health Analytics, monograph Albumin, Iodinated I-131;2016.