SEPARATION OF BLOOD PROTEINS

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Abattoir blood collection
Alfa Laval Blood Separator
Blood separation into plasma and red blood cells
Plasma and Red Blood Cells
Plasma Protein Separation Methods

- Cohn fractionation
- Modified Cohn fractionation (Ammonium sulphate)
- Heat shock
- Chromatography
Cohn Fractionation

- pH, salts and ethanol concentration controlled
- 5 step process
- Special flame-proof facilities
Modified Cohn Process - Ammonium Sulphate Fractionation

- Possible to separate major proteins
- pH
- Ammonium Sulphate
- Centrifugal separation of precipitate
Heat shock method

- Caprylate 1:1
- pH controlled
- Heat (67°C 4h)
Chromatography method

- Multistep
- Expensive
Pilot scale
Heat Shock Fractionation and Modified Cohn Fractionation
Ultrafiltration of ammonium sulphate and heat shock fractions
Pilot Scale Ultrafiltration
Freeze-drying
SDS Page Electrophoresis
Blood Proteins on SDS Page Gel Electrophoresis

Lanes
1. Bovine Plasma
2. IgG
3. Fibrinogen
4. Albumin (Sigma)
5. Transferrin
6. Haemoglobin
Agarose Gel of Blood Fractionation
Other Co-products Expertise

- Blood products (deer, sheep & beef)
- Various organ extracts
- Aprotinin from bovine lung (analytical, process)
- Pancreas (analytical, process)
- Intestine (sheep & beef)
- Collagen (corium, extraction, denaturation)
- GAGs (stick water, connective tissue)
- Meat & bone meal quality (analytical and processing)
- Bone (prosthesis, photography grade gelatin, hydroxy-apatite, marrow)
BioProcessing Group Expertise

• Meat co-products
• Dairy products
• Hydrolysis of food proteins
• Fermentation
• Protein expression