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A Note on the Fractional Separation of Latex Proteins

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For a complete study of the influence of the native proteins and lipo-proteins on the stability of latex it is necessary to obtain these bodies in a pure unaltered form and to examine their colloidal and biochemical properties. To this end an attempt was made to separate, purify and classify as many discrete protein and lipo-protein fractions as possible.

Clear serum is obtained by freezing fresh latex in the field within half an hour of tapping and maintaining at-25°C for 16 days. On thawing, the serum may be expressed from the coagulum.

Several methods of separation have been tried—in each case the salt precipitation technique has been used, followed by dialysis and drying in vacuo. Oxidation and putrefactive difficulties have been encountered during the rather prolonged dialysis period.

Albumins, globulins, proteoses and peptones have been shown to be present in serum and of these the albumin and globulin fractions occur in greatest proportions. The presence of glutelins as soluble complexes has also been indicated.

Analysis figures show that phosphorus (organic) is associated in undialysable form and in varying amounts with all fractions separated, and carbohydrate material is plentiful throughout, but is removable by washing and partial dialysis.

Tyrosinase has been demonstrated in association with an inhibitor which appears to be of protein nature.

The general form of the separation method being investigated at the present time is shown.

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