DENATURATION OF METHEMOGLOBIN A_2*

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In the course of other work we have made a qualitative observation on the relative instability of human methemoglobin A_2. Since we are not investigating the matter further we report our observations briefly now, as they may be of interest to those concerned with correlating properties of proteins with their amino acid sequence.

Hemoglobin was prepared from washed human erythrocytes by lysis with distilled water and imperfect crystallization in phosphate buffer by the method of Drabkin (1946). After dialysis against buffer, hemoglobins A_1 and A_2 were then separated on DEAE Sephadex, eluting with tris buffer pH 8, 0.05 M in chloride. (W. Konigsberg, personal communication). The A_2 elutes ahead of and is well separated from A_1.

Both hemoglobins were oxidized with ferricyanide, and in the above buffer both remain soluble. However, when dialyzed in the cold against distilled water the major A_1 component remains in solution, but the A_2 invariably precipitates out and cannot be brought back into solution. It thus appears that at least in distilled water methemoglobin A_2 denatures much faster than methemoglobin A_1.

REFERENCES

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