Note on the viscosity of myosin.

by

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Several workers have, in the past, studied the viscosity of myosin and found it to be anomalous. As it is now clear that in all these cases impure myosin was used, these data must be revised. A small amount of actin influences the viscosity of myosin very strongly.

We have determined the viscosity of twice recrystallised

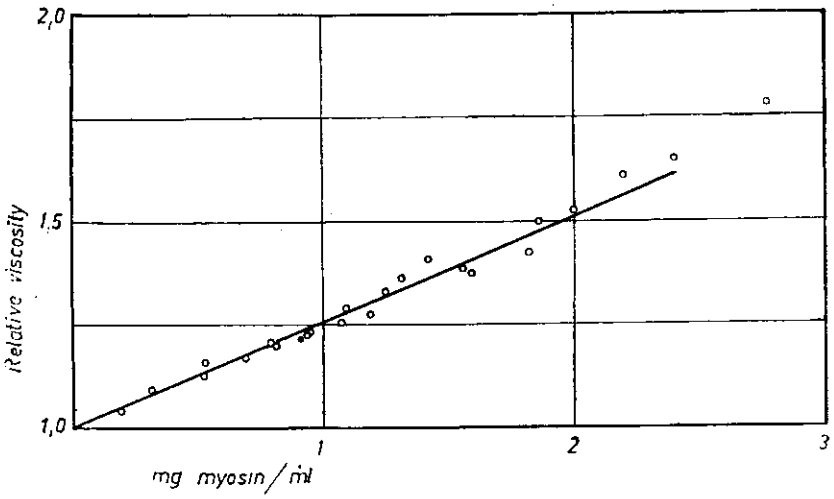

Fig. 1. Viscosity of recrystallised myosin in 0.6 *M* KCl at 0°.

myosin at 0° in 0,6 *M* KCl solution buffered with veronal acetate to pH 7. (For the composition of this solution see BALENOVIĆ and STRAUB[1].) The myosin content was determined in the following way: 1 ml of the myosin solution was diluted so as

to contain less than 0,2 *M* salt and then an equal volume of alcohol was added and the mixture was heated to 70° for 10 minutes. The precipitate was centrifuged off and washed with a 50 % alcohol, centrifuged and dried at 105°.

The viscosity of myosin solutions in relation to the concentration of myosin is shown in Fig. 1. No correction was taken for the change of specific weight on addition of myosin to the salt solution. The points were obtained with four different myosin preparations.

The dependence of the viscosity on the pressure was studied with the method described in this volume.[2] It was found that, between 5—100 cm water pressure, the viscosity is independent of the pressure within the limits of experimental errors. Thus it appears that the viscosity of myosin in 0,6 *M* KCl is not anomalous. The same conclusion can be drawn from Fig. 1. where it is to be seen that the viscosity of dilute solutions is proportional to the myosin content.

References.

1. *K. Balenović* and *F. B. Straub*, These studies **2**, 17 (1942).
2. *F. B. Straub*, ibid., **3**, (1943).