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Protein content of frog's plasma.

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In the *Journal of Experimental Pathology* of October, 1921, Hill and McQueen made some observations on capillary pressure of the frog's kidney, which they believe indicate that filtration is not possible. They found capillary pressure of about 10 millimeters, while the pressure in the arterioles was from 25 to 30 millimeters. A pressure of 10 millimeters might still be large enough to produce filtration if the colloid content of the frog's blood was low enough. We have accordingly made some determinations on the protein content of the frog's plasma. This was done by drawing blood from the heart of frogs into tubes containing finely divided potassium oxalates. The blood was then centrifuged and the plasma obtained. Kjeldahl determinations were done on the plasma and reckoning the total nitrogen found as all protein, and using the factor 6.25, the protein of the frog's blood is between 0.6 and 0.8 per cent.—approximately 10 per cent. of that of mammals. With this small colloidal content it is evident that very few millimeters of mercury would be sufficient to permit filtration. Thus the low capillary pressures observed by Hill and McQueen are no arguments against filtration.

It may be noted that Halliburton[1] gives the content of frog's plasma at about 2.5 per cent. protein. Our results were obtained from frogs in the late fall, and whether Halliburton's results are due to a seasonal variation or whether it is a difference of method we do not know, as Halliburton does not give details as to how he obtained his plasma.

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[1] *Journal of Physiology*, 1886, vii, 319.