

hydrolysis would be expected to yield a large amount of orthophosphate and small amounts of imidodiphosphate and imidotriphosphate. Polymers of the type shown in Fig. 1 would be highly meta-chromatic due to the presence of few secondary phosphate ionizations, which inhibit metachromasy (8). They might also exhibit a completely different affinity for RNA than a true polyphosphate, thus resembling the naturally occurring "polyphosphate."

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enhanced by gum acacia (3). Similar studies with dextrans of varying molecular weights (5) show augmented titers (1:640) with dextran of high molecular weight (75,000), but not with dextran of lower molecular weight (41,500). The hypothesis that enhancement of agglutination by gum acacia is due to the gum's molecular size is strengthened. Agglutination by dextrans of high molecular weight also is inhibited by 5-percent *d*-glucose or normal human serum.

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Hemagglutination by Fava Bean

Extract Inhibited by Simple Sugars

Abstract. Hemagglutination by extract of fava bean was inhibited by 5-percent *d*-glucose, *d*-fructose, or maltose, but not by 5-percent *d*-galactose or lactose. Failure to inhibit seems to reflect the presence of a hydroxyl group at the carbon No. 4 position. Hemagglutination was enhanced by dextran of high molecular weight, but not by dextran of low molecular weight. The finding supports the hypothesis that large molecular size explains the enhancement by gum acacia of hemagglutination by fava bean.

Agglutination of normal human erythrocytes by substances other than blood group-specific isoantibodies is well known (1). Inhibition of this hemagglutination by various complex sugars has been reported (2). The effects of simple sugars on hemagglutination by saline extract of fava bean are the subject of this report.

Hemagglutination by fava bean was inhibited by 5-percent *d*-glucose, *d*-fructose, or maltose, but not by 5-percent *d*-galactose or lactose (Table 1). The determining factor appears to reside in the configuration of the No. 4 carbon atom: presence of a hydroxyl group prevents inhibition of hemagglutination. Inhibition by normal

human serum of hemagglutination by fava bean has been reported (3); the concentration of glucose in normal human serum, 0.6 to 1.05 mg ml⁻¹, cannot explain such inhibition. Inhibition was complete with 0.6-, partial with 0.55-, and none with 0.4-percent *d*-glucose. Agglutination disappeared if normal serum or 5-percent *d*-glucose was added after agglutination occurred. The inhibition in vitro by normal serum of hemagglutination by fava bean did not occur in the serum of a child with favism (4). These observations suggest that induced hyperglycemia or transfusion of plasma may have a therapeutic effect in human favism.

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Encephalitogenic Activity of Bovine Basic Proteins

Abstract. Two basic proteins isolated from bovine white matter in connection with a study of the protein-bound phosphoinositides of central nervous system tissue have been tested for encephalitogenic activity. The biological activity of these proteins, which is equivalent to that of basic encephalitogenic proteins isolated in other laboratories, suggested that they are identical.

The basic protein fraction of central nervous system (CNS) myelin has been investigated intensively because it can induce experimental allergic encephalomyelitis (EAE) in various animals (1). Although the encephalitogen is part of the myelin proteolipid, it is not found in the chloroform-methanol (2:1 mixture) extract of the whole tissue. Its absence from the chloroform-methanol extract of whole tissue is presumably caused by some interaction between the encephalitogenic proteolipid and other constituents of the tissue

Table 1. Effects of simple sugars on hemagglutination by saline extract of fava bean. Degree of agglutination indicated by number of plus signs.

Sugar concentration (%)	Extract titer				
	1:10	1:20	1:40	1:80	1:160
None	++++	++++	+++	++	0
Lactose 5	++++	++++	+++	++	0
<i>d</i> -Galactose 5	++++	++++	+++	++	0
Maltose 5	0	0	0	0	0
<i>d</i> -Fructose 5	0	0	0	0	0
<i>d</i> -Glucose 5	0	0	0	0	0
<i>d</i> -Glucose 0.6	0	0	0	0	0
<i>d</i> -Glucose .55	++	++	0	0	0
<i>d</i> -Glucose .4	+++	+++	++	++	0

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