Hubt

UNIVERSITY OF MARYLAND
SCHOOL OF MEDICINE
LOMBARD AND GREENE STREETS
BALTIMORE - 1, MARYLAND

DEPARTMENT OF
BIOLOGICAL CHEMISTRY

Centennial and Sesquicentennial Celebrations

College of Agriculture 1856-1956 *School of Medicine* 1807-1957

February 11, 1958

Dr. Joshua Lederberg
Department of Genetics
University of Wisconsin
Madison 6, Wisconsin

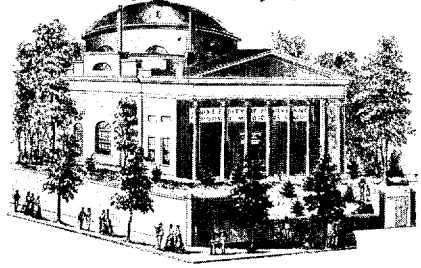
Dear Dr. Lederberg:

The information on the nutrition of H. influenzae is rather sparse. We have studied only H. parainfluenzae and the most recent reference to a completely defined medium for this organism is enclosed. We published a paper in J. Bact. 58, 379, 1949 in which a more simplified synthetic medium for H. parainfluenzae is described but my supply of these reprints is depleted.

H. influenzae will grow in the simplified medium for H. parainfluenzae but only if a small amount of a filtrate from boiled defibrinated blood is added. Dr. Goodgal from Johns Hopkins has tried to use both our complex and simplified formulae and neither will support H. influenzae growth without the added blood filtrate.

Perhaps for your purposes, the media employed by Granick and Gilder, J. Gen. Physiol. 30, 1, 1946; Ibid, 31, 103, 1947 would be satisfactory. They studied both H. influenzae and H. parainfluenzae strains in a peptone-salts medium.

I am familiar with only a single study of the oxidative capacity of H. parainfluenzae and I have not seen any publication on the energy metabolism of H. influenzae. Klein, J. R., J. Biol. Chem., 134, 43, 1940 reported that H. parainfluenzae would oxidize glutamic and aspartic acids, succinic, fumaric, and malic acids, and pyruvic acid and acetaldehyde. We have observed good oxygen uptake by washed cells of H. parainfluenzae on succinate, lactate, malate, pyruvate and α-ketoglutarate



Oldest building in the United States used continuously for medical teaching

HERBST

(as well as on glucose) but these results have not been published.

I hope that the information will be of some value to you although I realize that the situation on H. influenzae is pretty poorly defined. We have been interested in Hemophilus only as a tool to study diamine and polyamine metabolism and these investigations have been confined to H. parainfluenzae.

With best regards, I am,

Sincerely,

Edward J. Herbst

Edward J. Herbst
Associate Professor

EJH:jll

Enclosure