MH20 S3

WASHINGTON UNIVERSITY
SCHOOL OF MEDICINE
SAINT LOUIS

DEPARTMENT OF MICROBIOLOGY
EUCLID AVENUE AND KINGSHIGHWAY

November 20, 1956

Dr. Michael Heidleberger
Department of Immunochemistry
Rutgers University
New Brunswick, New Jersey

Dear Dr. Heidleberger:

Since our exchange of letters I have spent some time in between teaching sessions preparing and purifying some β-galactosidase for you. I am sending today 25 ml. of a preparation which contains 1.1×10^6 units per ml. This preparation is about 70 per cent pure. One unit of enzyme is 1 mM of o-nitrophenol-β-D-galactoside hydrolyzed per minute at 28° C, pH 7.0, M/10 sodium phosphate buffer. This enzyme is sodium activated and we therefore work in all sodium buffer.

Since you will be trying to find either enzyme precipitation or enzyme inhibition by your anti-galactose sera, I am including some of the o-nitrophenol-β-D-galactoside substrate. We generally run our assays using M/500 O-nitro-phenol-β-D-galactoside under the above conditions. In the Beckman 1 μmole of o-nitrophenol liberated equals an optical density of 1.0 at 420 mμ.

One other note of caution: This enzyme which I am sending you is a by-product of another experiment which I carried out about 4 months ago. The solution I am sending you is radioactive. The enzyme is unlabeled but the contaminating proteins are labeled, and therefore you would want to be reasonably careful so as not to contaminate your lab. The radioactivity is sufficiently low not to be a health hazard, only a contamination hazard.

Once again, I am sorry about my delay in sending this and I hope that something exciting comes out.

Best of luck.

Sincerely,

Melvin Cohn

MC/mb