heating block. The vertical configuration of the dialyzer block probably also results in a more rapid temperature equilibration, owing to vertical air flow from the underlying heating units.

It would appear that until a more effective means of temperature control is available, frequent drift control standards are indicated in glucose determinations on the AutoAnalyzer II.

ALBERT L. CHASSON
Rex Hospital
Raleigh, N. C. 27608

Influence of Antibiotics on Laboratory Tests

To the Editor:

There is controversy about the influence of drugs on various laboratory tests (1, 2). Antibiotics, among the most frequently used drugs, could interfere with many tests.

To aliquots of a normal serum pool, weighed amounts of individual antibiotics were added (Table 1) and tested in triplicate by use of the SMA 12/60 (3). The drug concentrations represent approximate therapeutic serum concentrations, as calculated from manufacturers' information.

The results for none of the 12 tests (calcium, inorganic phosphorus, glucose, urea nitrogen, uric acid, cholesterol, total protein, albumin, total bilirubin, alkaline phosphatase, SGOT, and LDH) were altered by the drugs themselves or by the additives that the manufacturers used as antioxidants and preservatives. Since the antibiotics were tested in approximate therapeutic concentrations, it can be assumed that these same drugs administered to patients do not inter

<table>
<thead>
<tr>
<th>Table 1. Concentrations of Added Antibiotic in Aliquots of a Normal Serum Pool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug</td>
</tr>
<tr>
<td>-----------------------------------</td>
</tr>
<tr>
<td>Methicillin, sodium</td>
</tr>
<tr>
<td>Oxacillin, sodium</td>
</tr>
<tr>
<td>Streptomycin sulfate</td>
</tr>
<tr>
<td>Kanamycin sulfate</td>
</tr>
<tr>
<td>Cephalothin, sodium</td>
</tr>
<tr>
<td>Chloramphenicol, sodium succinate</td>
</tr>
<tr>
<td>Penicillin-G, sodium</td>
</tr>
<tr>
<td>Tetracycline hydrochloride</td>
</tr>
<tr>
<td>Ampicillin, sodium</td>
</tr>
<tr>
<td>Lincomycin hydrochloride</td>
</tr>
<tr>
<td>Erythromycin lactobionate</td>
</tr>
<tr>
<td>Colistin, sodium dibucaine hydrochloride</td>
</tr>
<tr>
<td>Gentamicin sulfate</td>
</tr>
</tbody>
</table>

* In μg/ml, except as noted.
ference with tests on the SMA 12/60. This does not exclude possible interference by drug metabolites, although it seems unlikely.

References


Richard T. O'Kell
Donald F. Knepper
Barry D. Spoon
Joseph R. Elliott

St. Luke's Hospital of Kansas City
Kansas City, Mo. 64111

Preparation of Enzyme Controls

To the Editor:

Because of the problems encountered in obtaining suitable enzyme control materials, we have developed a high-yield tissue extraction procedure that is both simple and inexpensive. Materials that are available to most laboratories can be processed into a satisfactory control system by using this procedure, at a fraction of the cost of commercial preparations.

Our extraction procedure is fast, simple, and does not require any special equipment or reagents. An approximate 25-g section of animal or human tissue is extracted with 100 ml of distilled water in a standard blender. The crude extract is then centrifuged at about 12,000 to 15,000 rpm, and the cleared supernatant fluid is then diluted with an acid citrate buffer, pH 7.0. The extent of this dilution will depend on the range of enzyme activity desired. The preparation can then be delivered into test tubes in any desired quantity and frozen until use.

We have considered GOT, GPT, LDH, α-HBDH, and CPE in this preliminary study and have evaluated it, to determine how closely our controls resemble human serum in detecting changes in activity caused by procedural variations. Temperature effects were studied; change in enzyme activity was measured as a function of temperature. The activity changes in the University of Tennessee preparations were compared with those in commercial controls and in human serum subjected to the same treatment. Change in enzyme activity as a function of dilution was also studied. Again, the activity changes in the University of Tennessee preparations were compared with those in commercial controls and human serum subjected to the same treatment. In addition, other characteristics of this system—such as physical appearance, stability in the frozen state and at room temperature, and presence of nonspecific background activity—have been considered. No measurable background activity was found, the stability at room temperature was very satisfactory, and there was no clinically significant loss of activity in the frozen state during two months. The preparations are clear and free of precipitation, particular matter, or other objectionable physical characteristics. Statistical analysis of the preliminary data indicates that our preparation is an acceptable control material.

Additional studies are currently underway in this laboratory to provide a more conclusive evaluation of this proposed approach to enzyme quality control.

Charles H. Smith
David D. Bayse
Richard L. Schumaker
Robert B. Walker
Rose Ann Fetzner

Clinical Chemistry Laboratories
University of Tennessee Medical Unit
Memphis, Tenn. 38103

Moving?

Help us to help you assure uninterrupted delivery of CLINICAL CHEMISTRY to your door each month. If you are planning to move or be away from your permanent address for an extensive period of time, send us your new address six weeks in advance.

When writing, be sure to type or print your name clearly and your new address, complete with Zip Code. It is essential that you also list your old address.

Thank you for your cooperation.

CLINICAL CHEMISTRY
American Association of Clinical Chemists
P.O. Box 15593
Ardmore Station
Winston-Salem, N.C. 27103