Volume 29, Number 12, 1983 2121

Table 1. Precision of Magnesium Determination

<table>
<thead>
<tr>
<th></th>
<th>Serum controls</th>
<th>Urine controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beckman 2</td>
<td>Beckman 3</td>
</tr>
<tr>
<td><strong>Within run</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x$, mg/L</td>
<td>20.3</td>
<td>41.5</td>
</tr>
<tr>
<td>SD, mg/L</td>
<td>0.9</td>
<td>0.9</td>
</tr>
<tr>
<td>CV, %</td>
<td>4.43</td>
<td>2.20</td>
</tr>
<tr>
<td><strong>Between run</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x$, mg/L</td>
<td>20.9</td>
<td>42.0</td>
</tr>
<tr>
<td>SD, mg/L</td>
<td>1.1</td>
<td>1.2</td>
</tr>
<tr>
<td>CV, %</td>
<td>5.26</td>
<td>2.86</td>
</tr>
</tbody>
</table>

$n = 20$ each. *Ortho controls diluted threefold.

---

Harold J. Kisner
Thomas R. Koch
Edward C. Knoblock
Dept. of Pathol.
Univ. of Maryland Sch. of Med. and Hosp.
22 S. Greene St.
Baltimore, MD 21201

Gelman Kit Modified

To the Editor:

We agree with the conclusions of Kumpel and Wood (1) that adenylate kinase (AK) activity should be suppressed in assays of creatine kinase isoenzymes. Accordingly, the reformulated CK Isozyme U.V. Reagent Set (P.N. 51914), which has been marketed by Gelman Sciences since February 1983, does contain 52 μmol of diadenosine pentaphosphate and 8.4 μmol of adenosine monophosphate per liter, to inhibit AK.

Reference


Borek Janik
Lab. Product Development
Gelman Sciences Inc.
Ann Arbor, MI 48106

Antibiotics and p-Aminohippurate

To the Editor:

p-Aminohippuric acid (PAH) has classically been used in evaluation of renal plasma flow. This procedure has decreased in importance, but there are still indications for this relatively complicated test. In view of the side effects connected with continuous intravenous infusion and bladder catheterization, a single-injection technique is sometimes preferred (1). The patients being so evaluated are often vulnerable due to suspected or verified renal disease and sometimes are taking antibiotics. A recent patient examined at this hospital may deserve reporting as a reminder of the importance of drug interactions that may affect determination of PAH.

PAH is usually assayed colorimetrically by use of the condensation product formed after reaction with an amino compound, nitrite (2) or p-dimethylaminobenzaldehyde (3). The latter procedure is used in this laboratory. The patient, a two-month-old boy with right-sided hydronephrosis togethet with reflux, was given the PAH-clearance test (in connection with clearance of insulin), the single-injection technique being used. Thus only blood specimens were collected. Table 1 gives the results of PAH determinations in the patient's serum. Absorbance before the injection of PAH was high, and remained so throughout the test. We later learned that the patient had received sulfamethoxazole/trimethoprim (Bactrim®, Roche) for treatment of a urinary-tract infection.

Addition of trimethoprim or sulfamethoxazole to serum in vitro showed that only sulfamethoxazole influenced assay of PAH. Trimethoprim had no effect, alone or in combination with sulfamethoxazole.

Asay of p-aminobenzene derivatives by this technique is nonspecific; several other compounds are known (4) to influence it, most importantly sulfonamides. The medication being received by a patient who is to receive PAH-clearance studies should be made known to the analyst, to avoid interferences.

References


Kar-Eric Karlmar
Dept. of Clin. Chem. I
Karolinska Institutet
Huddinge Univ. Hospital
S-141 86 Huddinge, Sweden

Significance of Hyperferritinuria

To the Editor:

Ferritin, the major form in which iron is stored, is widely distributed in body tissues. Small amounts are being constantly released from the tissues into the circulation. In healthy subjects and in patients with iron deficiency or iron overload, the concentration of circulating ferritin is related to the available iron stores (1). An abnormally low concentration of ferritin in serum is highly suggestive of iron deficiency; an above-normal concentration may result from various conditions such as iron overload, tissue damage, malignancy, or inflammation (2).

Ferritin is also present in trace amounts in urine, originating most likely from renal tubular cells (3, 4). Correlations between urinary and serum ferritin have been reported, an observation that suggests that the concentrations of ferritin in urine and se-