Summary

Meprobamate (Miltown® and Equanil®) was introduced as an anti-anxiety agent for humans in 1955 and is prescribed primarily to treat anxiety, tension, and associated muscle spasms. More than 50 tons are distributed annually in the United States. Carisoprodol (Soma®), a skeletal muscle relaxant, is metabolized to Meprobamate.

Meprobamate is given orally at doses of 200-400mg and as much as 2400mg may be consumed within a single day. A single dose of 400mg orally in a 6 person study resulted in average plasma concentrations of 7.7mg/L at 2 hours, 4.4mg/L at 8 hours and 1.6mg/L at 24 hours. Average plasma half life appears to be 11 hours. A high dose study using 1600mg of Meprobamate resulted in average blood concentration of 24mg/L at 2 hours which dropped to 20mg/L by 6 hours and 7.7mg/L by 19.5 hours.

Meprobamate is heavily metabolized by oxidation to Hydroxymeprobamate and by N-glucuronidation of the parent drug. Carisoprodol is also metabolized to Meprobamate and subsequently Hydroxymeprobamate. Additional Carisoprodol metabolites have been observed and include Carisoprodol-N-β-D-Glucuronide and HydroxyCarisoprodol.

References


Product Features

- Ultra sensitive detection of Meprobamate
- Detects Carisoprodol and Meprobamate-N-β-D-Glucuronide
- Validated for human urine, whole blood, serum and plasma
- Single and bulk packaging available
- Compatibility with automated and semi-automated instruments

Summary of Protocol

- Add 20 µL samples and Controls
- Add 100 µL ready-to-use enzyme conjugate solution
- 45 minute incubation at room temperature
- Wash plate 3 times
- Add 100 µL Substrate TMB
- 30 minute incubation at room temperature
- Add 100 µL Stop Solution
- Measure OD at 450 nm

Sensitivity and Specificity

<table>
<thead>
<tr>
<th>Drug</th>
<th>I-50 (ng/ml)</th>
<th>Percent Cross-Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meprobamate</td>
<td>4.7</td>
<td>100</td>
</tr>
<tr>
<td>Meprobamate-N-β-D-Glucuronide</td>
<td>1.2</td>
<td>376</td>
</tr>
<tr>
<td>Carisoprodol</td>
<td>11.4</td>
<td>41</td>
</tr>
</tbody>
</table>

Sample Dilutions

The recommended minimum sample dilution is 1:20 for urine and 1:10 for whole blood, serum, and plasma.

Order Details

- Single Kit - 96 well package | Product No. 133419
- Bulk Kit - 480 well package | Product No. 133415

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