Test Definition: TSPU
Targeted Stimulant Screen, U

Overview

Useful For
Determining compliance or identifying illicit stimulant drug use

This test is **not intended for** employment-related testing.

Highlights
This test uses high-resolution accurate mass spectrometry to identify 11 different stimulants for situations when immunoassays are not adequate.

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPPS</td>
<td>List prescribed stimulants</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>TSTIM</td>
<td>Targeted Stimulant Screen, U</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Method Name
Liquid Chromatography-Tandem Mass Spectrometry, High Resolution Accurate Mass (LC-MS/MS HRAM)

NY State Available
Yes

Specimen

Specimen Type
Urine

Additional Testing Requirements
In most cases, no additional testing is needed after the qualitative targeted stimulant test is performed if the parent and/or metabolites found are consistent with the patients prescribed medications. However, if unexpected stimulant is found, confirmatory testing can be requested at an additional charge.

Specimen Required

**Supplies:** Aliquot Tube, 5 mL (T465)

**Collection Container/Tube:** Plastic urine container

**Submission Container/Tube:** Plastic, 5-mL tube

**Specimen Volume:** 3 mL

**Collection Instructions:**
1. Collect a random urine specimen.
2. No preservative

**Forms**

If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

**Specimen Minimum Volume**

1 mL

**Reject Due To**

<table>
<thead>
<tr>
<th>Gross hemolysis</th>
<th>OK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross icterus</td>
<td>Reject</td>
</tr>
</tbody>
</table>

**Specimen Stability Information**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>14 days</td>
<td>Special Container</td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

**Clinical and Interpretive**

**Clinical Information**

Stimulants are sympathomimetic amines that stimulate the central nervous system activity and, in part, suppress the appetite. Amphetamine and methamphetamine are also prescription drugs used in the treatment of narcolepsy and attention-deficit disorder/attention-deficit hyperactivity disorder (ADHD). Methylphenidate is another stimulant used to treat ADHD. Phentermine is indicated for the management of obesity. All of the other amphetamines (eg, methylenedioxymethamphetamine: MDMA) are Drug and Enforcement Administration (DEA) scheduled Class I compounds. Due to their stimulant effects, the drugs are commonly sold illicitly and abused. Physiological symptoms associated with very high amounts of ingested amphetamine or methamphetamine include elevated blood pressure, dilated pupils, hyperthermia, convulsions, and acute amphetamine psychosis.

**Reference Values**

Not detected

Cutoff concentrations

- Methamphetamine: 100 ng/mL
- Amphetamines: 100 ng/mL
- 3,4-Methylenedioxymethamphetamine (MDMA): 100 ng/mL
- 3,4-Methylenedioxy-N-ethylamphetamine (MDEA): 100 ng/mL
- 3,4-Methylenedioxyamphetamine (MDA): 100 ng/mL
- Ephedrine: 100 ng/mL
Pseudoephedrine: 100 ng/mL
Phentermine: 100 ng/mL
Phencyclidine (PCP): 20 ng/mL
Methylphenidate: 20 ng/mL
Ritalinic acid: 100 ng/mL

**Interpretation**

If a stimulant or its corresponding metabolite is identified (present), it indicates that the patient has used the respective stimulant in the recent past (typically 1-3 days). The absence of the expected stimulant or its metabolites may indicate noncompliance, inappropriate timing of specimen collection relative to drug administration, poor drug absorption, diluted or adulterated urine, or limitations of testing. The concentration of the drug must be greater than or equal to the cutoff to be reported as present. If a specific drug concentration is required, the laboratory must be contacted within two weeks of specimen collection/testing to request quantification by a second analytical technique at an additional charge.

**Cautions**

No significant cautionary statements

**Clinical Reference**


Performance

Method Description
The urine sample is diluted with internal standard and clinical laboratory reagent water and then analyzed by liquid chromatography-tandem mass spectrometry using a high resolution-accurate mass orbi-trap detector. (Unpublished Mayo method)

PDF Report
No

Day(s) Performed
Monday through Friday

Report Available
2 to 5 days

Specimen Retention Time
14 days

Performing Laboratory Location
Rochester

Fees and Codes

Fees
- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact Customer Service.

Test Classification
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
80326

(G0480 if appropriate)

LOINC® Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSPU</td>
<td>Targeted Stimulant Screen, U</td>
<td>In Process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>610273</td>
<td>Methamphetamine</td>
<td>19554-5</td>
</tr>
<tr>
<td>Result ID</td>
<td>Test Result Name</td>
<td>Result LOINC Value</td>
</tr>
<tr>
<td>-----------</td>
<td>------------------------------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>LPPS</td>
<td>List prescribed stimulants</td>
<td>29305-0</td>
</tr>
<tr>
<td>610274</td>
<td>Amphetamine</td>
<td>19343-3</td>
</tr>
<tr>
<td>610275</td>
<td>3,4-methylenedioxymethamphetamine (MDMA)</td>
<td>19568-5</td>
</tr>
<tr>
<td>610276</td>
<td>3,4-methylenedioxy-N-ethylamphetamine (MDEA)</td>
<td>59844-1</td>
</tr>
<tr>
<td>610277</td>
<td>3,4-methylenedioxyamphetamine (MDA)</td>
<td>19565-1</td>
</tr>
<tr>
<td>610278</td>
<td>Ephedrine</td>
<td>3592-3</td>
</tr>
<tr>
<td>610279</td>
<td>Pseudoephedrine</td>
<td>4003-0</td>
</tr>
<tr>
<td>610280</td>
<td>Phentermine</td>
<td>19674-1</td>
</tr>
<tr>
<td>610281</td>
<td>Phencyclidine (PCP)</td>
<td>19659-2</td>
</tr>
<tr>
<td>610282</td>
<td>Methylphenidate</td>
<td>19577-6</td>
</tr>
<tr>
<td>610283</td>
<td>Ritalinic acid</td>
<td>61058-4</td>
</tr>
<tr>
<td>610284</td>
<td>Stimulant Interpretation</td>
<td>In Process</td>
</tr>
</tbody>
</table>