## Lab Dept: Chemistry Test Name: **IMIPRAMINE AND DESIPRAMINE LEVEL General Information** Lab Order Codes: IMIP Synonyms: Norpramin®, Tofranil® **CPT Codes:** 80335 - Antidepressants, tricyclic and other cyclicals; 1 or 2 OR G0480 – Drug, test, definitive (if appropriate) Test Includes: Imipramine and Desipramine total concentration, Desipramine only, both reported in ng/mL. Logistics Test Indications: Antidepressant therapeutic drug monitoring, compliance and assessing potential toxicity. Lab Testing Sections: **Chemistry - Sendouts Referred to:** Mayo Medical Laboratories (Test: IMIPR) MIN Lab: 612-813-6280 **Phone Numbers:** STP Lab: 651-220-6550 **Test Availability:** Daily, 24 hours **Turnaround Time:** 2 – 4 days Special Instructions: Do not use separator tubes for collection. It is recommended that specimens be drawn 12 hours after the last dose. Specimen **Specimen Type:** Blood **Container:** Red NO GEL tube Draw Volume: 3 mL (Minimum: 0.75 mL) blood **Processed Volume:** 1 mL (Minimum: 0.25 mL) serum

| Collection:          | Routine venipuncture   |                              |
|----------------------|--|------------------------------|
| Special Processing:  | Lab Staff: Centrifuge specimen, remove serum aliquot into a screw-<br>capped round bottom plastic vial. Serum must be removed from cells<br>within 2 hours of collection. Store and ship at refrigerated temperatures.   |                              |
| Patient Preparation: | None   |                              |
| Sample Rejection:    | Mislabeled or unlabeled specimens; gross hemolysis; gross lipemia; grossly icteric; drawn in gel tube  |                              |
| Interpretive         |  |                              |
| Reference Range:     | Desipramine:   | Therapeutic: 100 - 300 ng/mL |
|                      | Imipramine and Desipramine::   | Therapeutic: 175 - 300 ng/mL |
|                      | <ul> <li>Interpretation: Most individuals display optimal response to imipramine when combined serum levels of imipramine and desipramine are between 175-300 ng/mL. Risk of toxicity is increased with levels above 400 ng/mL.</li> <li>Most individuals display optimal response to desipramine with serum levels of 100-300 ng/mL. Risk of toxicity is increased with despipramine levels above 400 ng/mL.</li> <li>Some individuals may respond well outside of these ranges, or may display toxicity within the therapeutic range, thus interpretation should include clinical evaluation.</li> <li>Therapeutic ranges are based on specimen drawn at trough (immediately before the next dose).</li> </ul> |                              |
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|                      |  |                              |
| Critical Values:     | N/A, see Interpretation comment above  |                              |
| Limitations:         | This test cannot be performed on whole blood. Serum must be<br>separated from cells within 2 hours of drawing; if serum is not removed<br>within this time, tricyclic antidepressant levels may be falsely elevated<br>due to drug release from RBCs. Specimens that are obtained from gel<br>tubes are also not acceptable, as the drug can absorb on the gel and<br>lead to falsely decreased concentrations.  |                              |
| Methodology:         | Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)  |                              |
| References:          | Mayo Medical Laboratories December 2017  |                              |

## Updates:

3/25/2004: Test moved from MedTox Laboratories to Mayo Medical Laboratories.

10/28/2009: Note new reference values. Plasma samples are no longer accepted.

10/25/2012: Toxic level concentrations updated.

1/5/2015: CPT updated

11/9/2015: Ref range and method update. Critical values removed.