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| **Macroprolactin** |  |  |
| **Synonyms** |  | Big-big-prolactin |
| **Clinical Indication** |  | Macroprolactin is an important source of assay interference that can lead to misdiagnosis and mistreatment.  Macroprolactin is a complex between serum prolactin and IgG antibody (rarely IgA). The complex has no biological activity and is clinically irrelevant, but it is reactive in varying degrees to prolactin immunoassays.  Biologically active non-complexed prolactin is referred to as bioactive monomeric prolactin.  Macroprolactinaemia is defined as a hyperprolactinaemia due to high levels of macroprolactin with a normal level of bioactive monomeric prolactin.  Best practice recommends all sera with an elevated total prolactin should be sub-fractionated with polyethylene glycol (PEG) to exclude macroprolactinaemia. |
| **Part of Profile / See Also** |  |  |
| **Request Form** |  | Combined Pathology manual Blood form or ICE request |
| **Availability / Frequency of Analysis** |  | All total prolactins >700 mU/L are screened for macroprolactin.  Add test manually for referral samples.  The minimum retesting interval is 4 years. |
| **Turnaround Time** |  | 1 Week |
| **Patient Preparation** |  | None required. |
| **Sample Requirements** |  |  |
| **Specimen Type** |  | Serum or plasma |
| **Volume** |  | 2 mL |
| **Container** |  |  |
|  |  | Gold-top (SST) tube  Or  Green-top (lithium heparin) tube Plain serum samples may also be used |

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| **Reference Range & Units** |  | Bioactive monomeric prolactin:- Males 63 - 245 mU/L  Females 75 - 381 mU/L |
| **Interferences** |  |  |
| **Interpretation & Clinical**  **Decision Value (if applicable)** |  | Macroprolactin studies will give the bioactive monomeric prolactin and the total prolactin. Interpretive comments will be added. |
| **References** |  | Serum total prolactin and monomeric prolactin reference intervals determined by precipitation with polyethylene glycol: evaluation and validation on common immunoassay platforms. Luisa Beltran *et al* **Clinical Chemistry 54:10 1673-1681 (2008**)  Determination of prolactin: The macroprolactin problem. **Best Practice and**  **Research Clinical Endocrinology and Metabolism Volume 27, Issue 5, October 2013.Pages 725-742** |
| **Test code** |  | MPRL |
| **Lab Handling** |  | Aliquot and freeze at -20°C**. Freeze and thaw ONCE only** |