

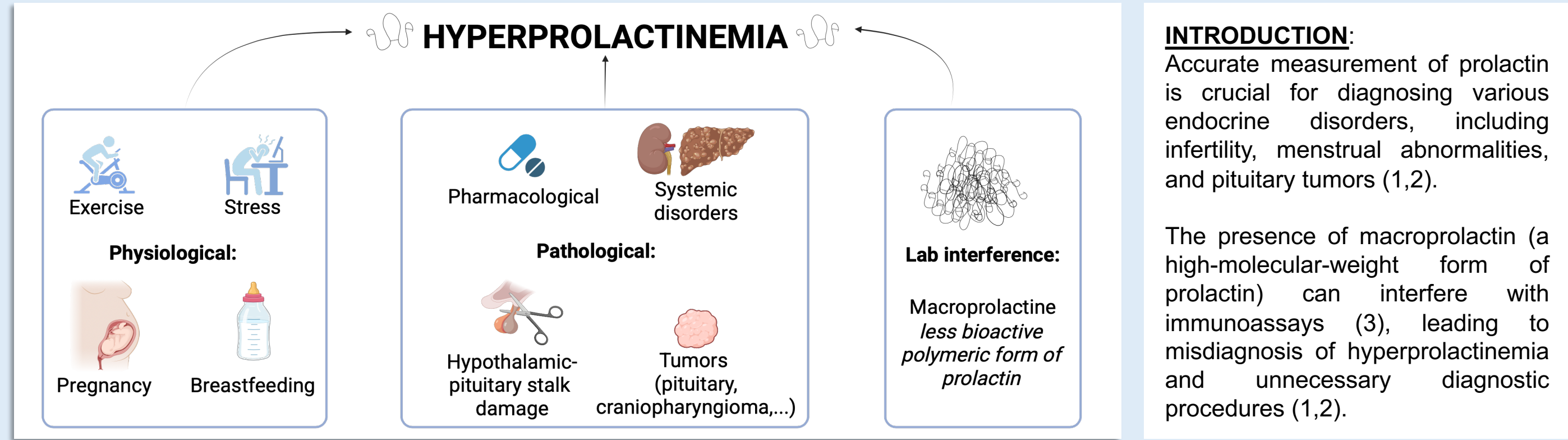
Evaluation of Analytical Performance of Prolactin Assays in the Presence of Macroprolactin Interference

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Pathological:



Pharmacological



Systemic disorders



Hypothalamic-pituitary stalk damage



Tumors (pituitary, craniopharyngioma,...)

Lab interference:

Macroprolactine
*less bioactive
polymeric form of prolactin*

HYPERPROLACTINEMIA

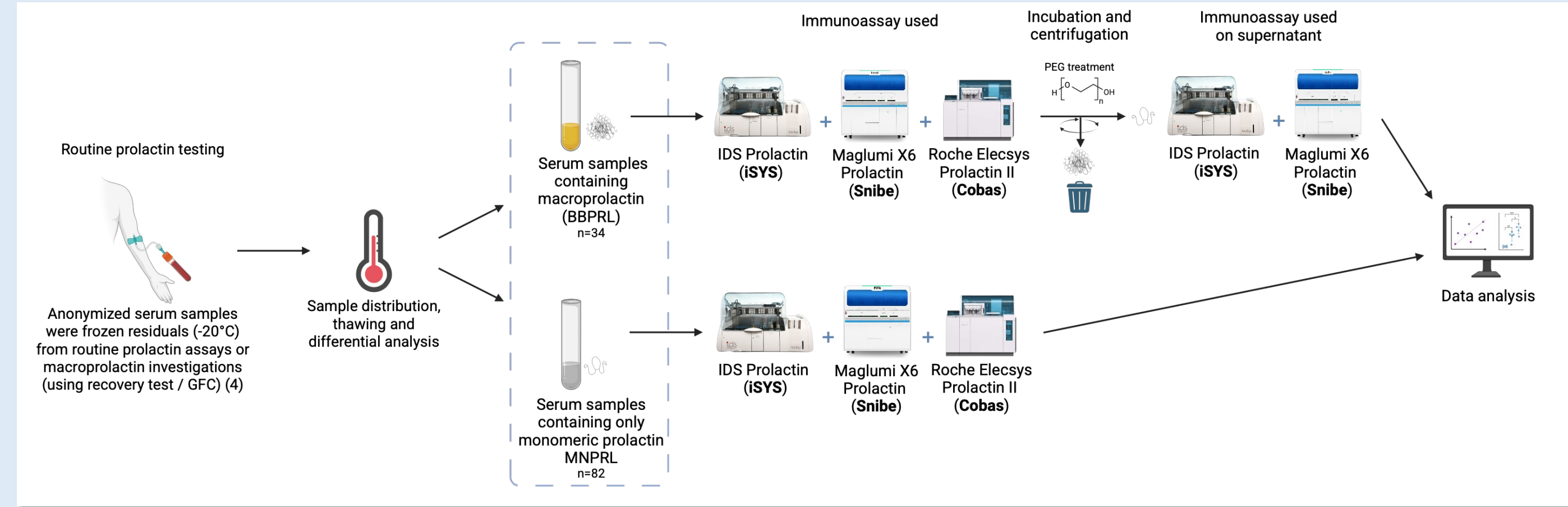
INTRODUCTION:

Accurate measurement of prolactin is crucial for diagnosing various endocrine disorders, including infertility, menstrual abnormalities, and pituitary tumors (1,2).

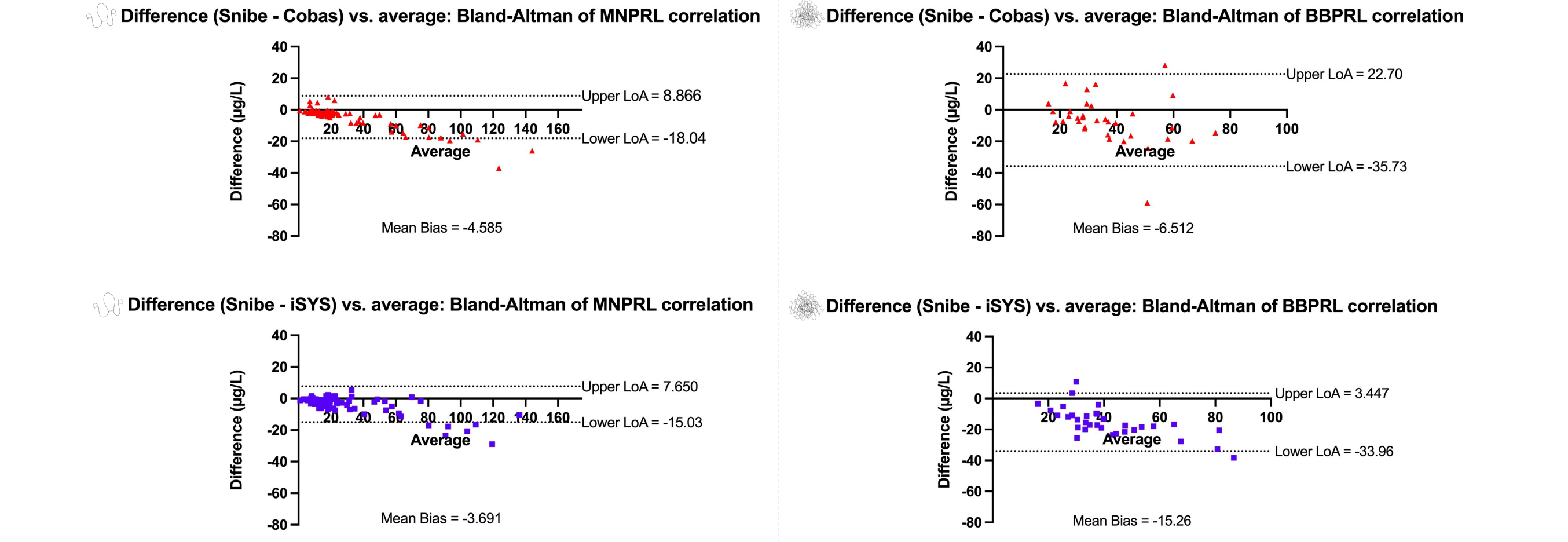
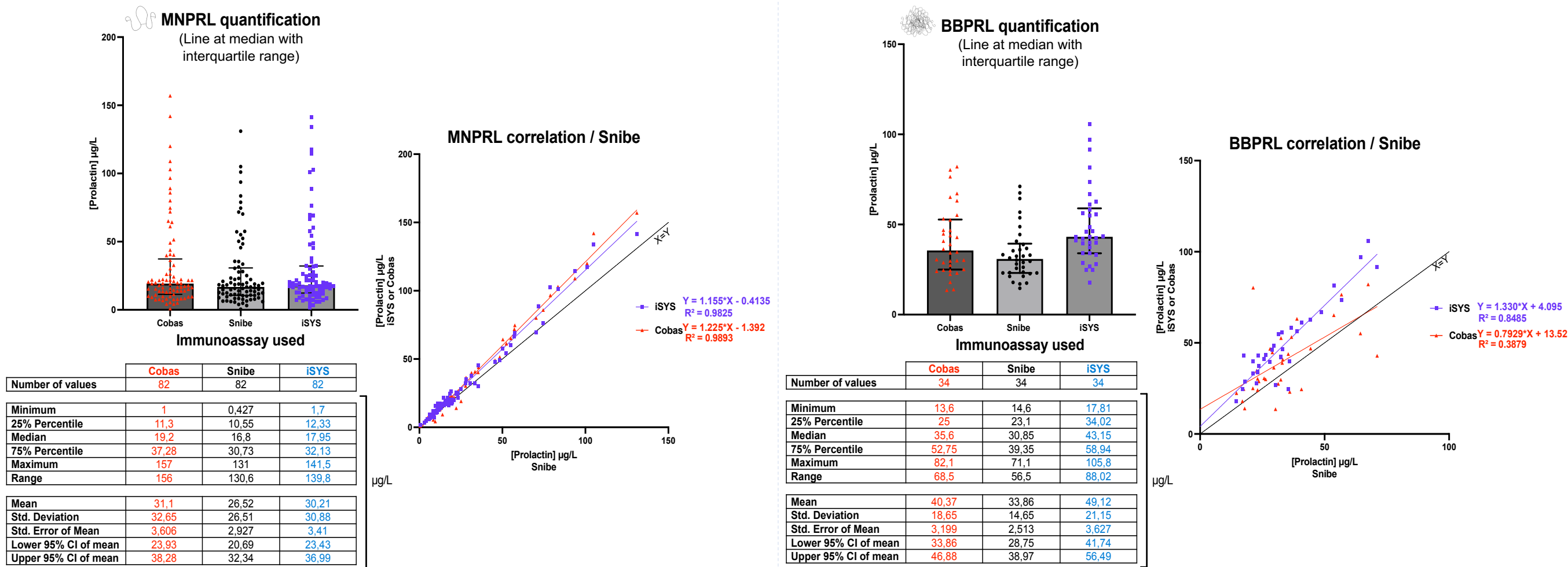
The presence of macroprolactin (a high-molecular-weight form of prolactin) can interfere with immunoassays (3), leading to misdiagnosis of hyperprolactinemia and unnecessary diagnostic procedures (1,2).

METHODS:

We compared the Snibe Maglumi X6 Prolactin, IDS Prolactin and Roche Elecsys Prolactin assays using 116 consecutive serum samples addressed for macroprolactin investigation. Based on in-house testing (PEG recovery and/or GFC-RIA when indicated (4)), samples were classified as BBPRL (n=34, macroprolactin confirmed by gel filtration chromatography (GFC)) or MNPRL (n=82, monomeric prolactin based on PEG pretreatment).



RESULTS:



CONCLUSION:

In the absence of macroprolactin, all assays showed strong correlations. This study characterizes, for the first time, the Maglumi X6 prolactin assay's response to macroprolactin interference. These findings underscore the importance of evaluating the behavior of reagents in the face of analytical challenges.