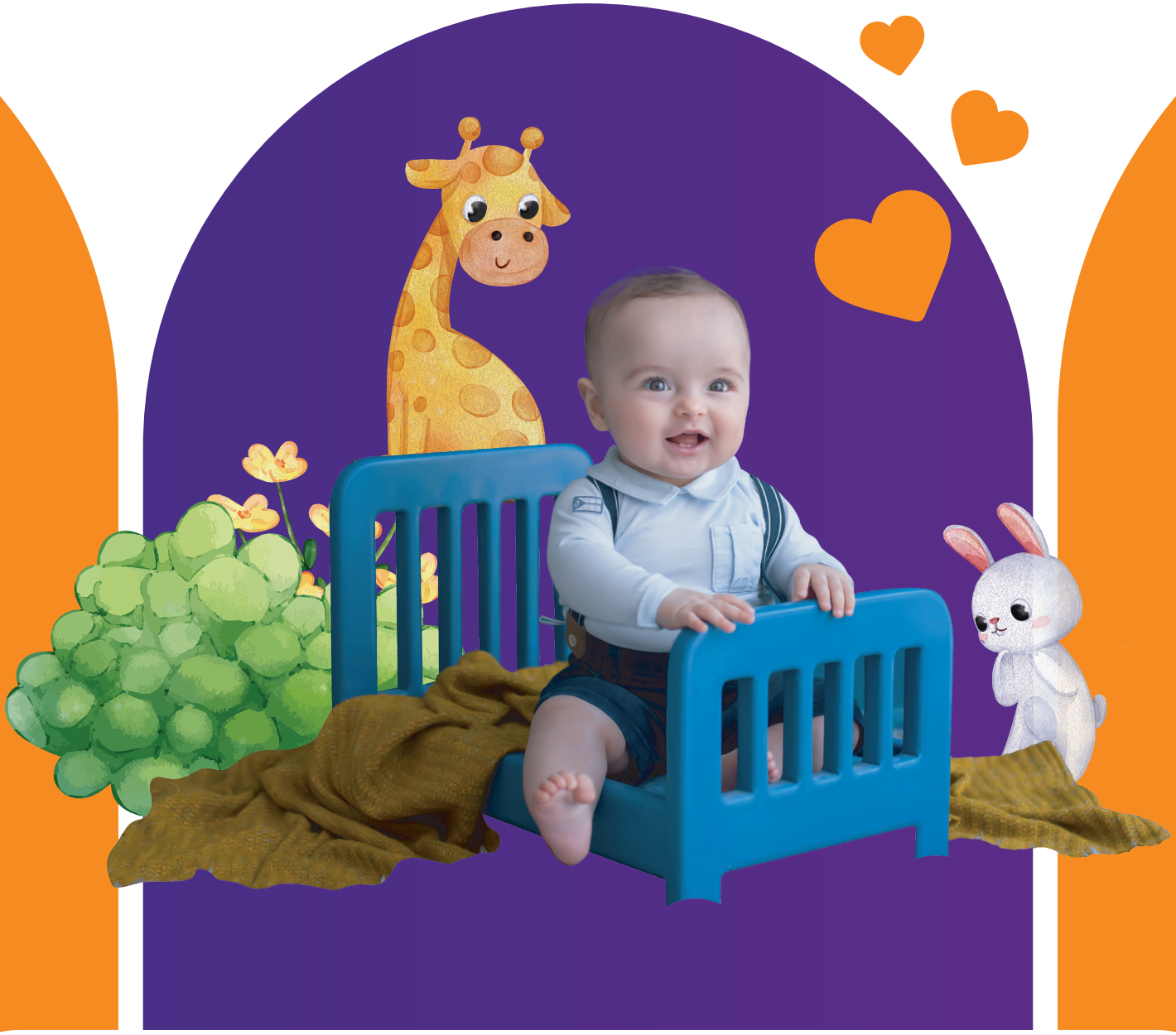
Neuberg DIAGNOSTICS | CENTER FOR GENOMIC MEDICINE

NeuMetabolomics Program

A Baby's First Step Towards a Healthy Life



Inborn Errors Metabolism (IEM) are estimated to affect **1 child out of 2497** births in India[1]

A safe and simple blood test done shortly after birth can help save a life!

About the NeuMetabolomics Program

NeuMetabolomics Program is a **newborn's first and most important health check**. It helps identify babies who may have rare but serious metabolic and other inherited disorders, allowing doctors to take the right steps even before symptoms appear.

Currently, the NueMetabolomics Program covers **100+** metabolic and genetic conditions. It also offers reflex molecular testing for screen-positive results, ensuring effective disease management.

Why Is NeuMetabolomics Program Important for Newborns in India

Newborn screening (NBS) done at the time of birth is the most crucial test to look for these disorders. Early detection and treatment can help prevent complications and morbidity, ensuring every child reaches their full potential.

Babies with one of these disorders may appear healthy at birth. They may not show any symptoms for weeks or months.

Most of the affected babies have no family history.

If not treated timely, these disorders can lead to developmental delays, irreversible brain damage, seizures, behavioural problems, and other life-threatening complications.

The NeuMetabolomics Program is the fastest way to detect these disorders before symptoms appear.

Panels/Packages Under the NeuMetabolomics Program

NeuMetabolomics

- **Hb diseases** — Hb-S/BThal; Hb-S/C; Hb-S/S; Hb Var
- **7 Bio** — (BIOT; PKU; GALT; CFTR; G6PD; CA; CAH)
- **TMS** — Fatty acid oxidation disorders; Amino acid disorders; Organic acid disorders
- **GC-MS** — Organic acid disorders and Urea cycle disorders
- **6 LSDs** — Gaucher; Pompe; Fabry Krabbe; MPS-I; NPD-A/B

Test Panels	Sample Type	Platform Used
Hemoglobinopathies	DBS	LC-MS/MS
7 Bio	DBS	ELISA/FEIA
Hb + 7 Bio	DBS	ELISA/FEIA+ LC-MS/MS
TMS	DBS	LC-MS/MS
7 Bio + TMS	DBS	ELISA/FEIA+ LC-MS/MS
Hb + 7 Bio + TMS	DBS	ELISA/FEIA+ LC-MS/MS
GC-MS	Urine/ DUS	GC-MS
TMS + GC-MS	DBS + Urine/DUS	LC-MS/MS + GC-MS
7 Bio + TMS + GC-MS	DBS + Urine/DUS	ELISA/FEIA+ LC-MS/MS + GC-MS
Hb + 7 Bio + TMS + GC-MS	DBS + Urine/DUS	ELISA/FEIA+ LC-MS/MS + GC-MS
LSDs (6 disorders)	DBS	LC-MS/MS
7 Bio + TMS + GC-MS + 6-LSDs	DBS + Urine/DUS	ELISA/FEIA+ LC-MS/MS + GC-MS
Hb + 7 Bio + TMS + GC-MS + 6-LSDs	DBS + Urine/DUS	ELISA/FEIA+ LC-MS/MS + GC-MS

What Does the Program Involve?

Sample collection

Blood sample is collected via heel prick on a special filter paper (DBS–dried blood spot). Alternatively, cord blood can also be used.
Urine sample or dried urine spot (DUS) may be required for confirmatory testing

Timeframe: The screening can be performed 24 hours after birth

Results

Screen negative: The baby is at low risk of having the disease.
Screen positive: The baby is at a high risk of having the disease and further tests are required to confirm the diagnosis after proper counselling.

Approach

DBS is screened for IEMs on TMS (tandem mass spectrometry) platform and biochemical assays (ELISA/FEIA).
Additionally, hemoglobinopathies are screened using the TMS platform.
Reflex molecular testing of screen-positive conditions and the high-risk group using next-generation sequencing (NGS) technology.

Repeat screening only when

The sample is not enough or suboptimal to perform the test
The result wasn't clear or was in abnormal range
The test is carried out prior to 24 hours after birth

Benefits

Screens maximum number of disorders with high accuracy on a single DBS.
Integrates advanced platforms that significantly reduce turnaround time (TAT) and chances of false positives and false negatives.
High-throughput screening with better sensitivity
Quick confirmatory molecular diagnosis for accurate disease management.

Why Clinicians Trust the NeuMetabolomics Program

The Neumetabolomics Program is not just a test but a comprehensive screening program that offers life-saving benefits. Here's how.

- Complimentary power of TMS and GCMS platforms
- Second-tier reflex genetic testing for screen-positive results to make a quick and accurate diagnosis
- One-to-one counselling support from genetic counsellors and on-board clinicians
- All-inclusive comprehensive testing panels based on your patient's needs
- Shortest TAT compared to other diagnostic services providers ensure early initiation of treatment
- Strategically located labs and facilities pan-India
- Research and clinician-driven with a science-first focus
- Registered for ERNDIM external quality assurance (EQA) program
- Accredited by the College of American Pathologists (CAP)

Recommend the Neumetabolomics Program and Support Neonatal Health Nationwide

To know more or book the test,

+91 63572444307 or write to us at contact@ncgmglobal.com

References:
1. Latheef SA. A database for inborn errors of metabolism in the Indian state of Andhra Pradesh. Bioinformation. 2010;4(7):276.