



AUTISM AND MULTI-OMICS

Multi-omics is like assembling a puzzle with pieces from different dimensions of biology to see the bigger picture



Autism and Gut health Research

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The background of the slide is a close-up photograph of various colorful wooden blocks, including letters and numbers in shades of red, yellow, blue, and green, scattered on a blue surface. A grey speech bubble with a black outline is positioned in the upper center, containing the title. A white speech bubble with a black outline is on the right side, containing a bulleted list.

Gut Health in Autism

- **Most of the kids with autism have gut inflammation similar to celiac disease secondary to food intolerances.**
- **Most of the behaviours in autism arise from gut symptoms**



Clinical Research

- **Considering exponential growth in autism, clinical research is needed at this moment**
- **We are conducting a clinical trial – Fecal Microbiota transfer Therapy to address gut health issues in autism**
- **Our ICMR approved study: CTRI/2022/02/040457**

Research Method

- **Study comprises two groups – Treatment group and placebo group**
- **Treatment group receives fecal microbiota transplant and placebo group receives plain bowel cleanse program**
- **Each group has 50 participants**
- **A multi-omics panel of tests are done to both groups before and after treatment to assess the improvements**



What is Multi-omics panel

- **A blood test done to evaluate genetics (whole exome sequencing), epigenetics (whole transcriptomics analysis, microRNA, Inc RNA sequencing, DNA Methylation studies), Proteomics and Metabolomics, food intolerance test to check immune dysregulation secondary to microbiome disruption**
- **A stool test is done to assess gut microbiome (metagenomics)**

Multi-omics Approach

Human Genome + Essential
Gut Microbial Genome+
Environmental Factors

Epigenetics

Development + Physiology





Epigenetics – Developmental Errors/Health and Disease

- **Aberrant epigenetics during fetal development -> autism and other developmental disorders**
- **Aberrant epigenetics after birth- ->various disease patterns**
- **Gut microbiome and environmental factors are modifiable factors for most of the diseases prevalent in today's world**



Pilot Study Results

- Our pilot study showed that one subset of autism is getting benefit from fecal microbiota transfer therapy- kids with gut symptoms & documented food intolerances on blood test, regressive autism with no genetic component.
- Gut symptom resolution, reduction in food intolerances, improvements in sensory issues, fine motors, sleep, mood, cognition and learning capability
- No complete recovery noted till now
- Improvement in quality of life
- We are looking for volunteers



More Info

- www.resplicecdc.com,
www.rarefoundation.co.in
- **Contact : +91 9281019252 ,
+91 9281019254**
- **Resplice Multi-Omics Clinic
for Autism and Healthy
Pregnancy**
- **Branches : Patancheru,
Manikonda**
- **Hyderabad, Telangana, India**

An aerial photograph of a multi-lane highway bridge spanning across a body of turquoise water. The bridge has several lanes in each direction, with white lane markings and a central divider. Several vehicles, including cars and trucks, are visible on the bridge. In the lower-left foreground, there is a white speech bubble with a black outline containing the text "Thank you".

Thank you

