CRI Scientists Increase Our Understanding of the Genetic Basis of Neuropsychiatric Disorders

Researchers at the Children's Medical Center Research Institute at UT Southwestern (CRI) improved our understanding of the genetic basis of neuropsychiatric disorders by creating the first mouse model of a mutation in the *Arid1b* gene.

Background

Neuropsychiatric Disorders

ARID1B gene commonly mutated in neuropsychiatric disorders.

Diseases include:

- Coffin-Siris Syndrome
- Autism
- Intellectual disability

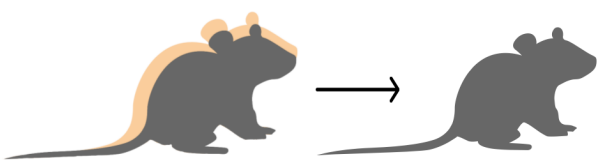
Coffin-Siris syndrome characterized by:

- Delayed physical growth
- Muscle weakness

- Social interaction problems
- Speech impairment
- Anxiety
- Intellectual disability

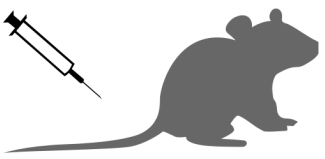
The Study

1 Copy of *Arid1b* gene deleted in mice.



2 Behavioral and hormonal tests performed on *Arid1b* mutant mice.

3 *Arid1b* mutant mice treated with growth hormone.

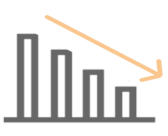


The Results

Arid1b mutant mice showed:

1 Growth retardation and muscle weakness

2 Neurobehavioral abnormalities



3 IGF1 and relative growth hormone deficiency

Study Summary - *Arid1b* Mutant Mice

- Showed increased growth and muscle strength when treated with growth hormones.
- Model for scientists to investigate *ARID1B's* role in human brain disorders.
- Useful tool for therapeutic testing of potential treatments for neuropsychiatric disorders.

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