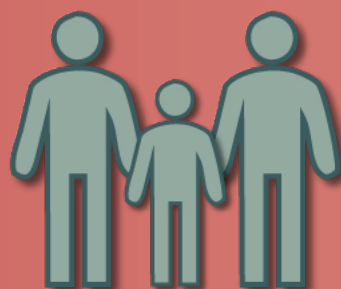


There are many genes related to autism

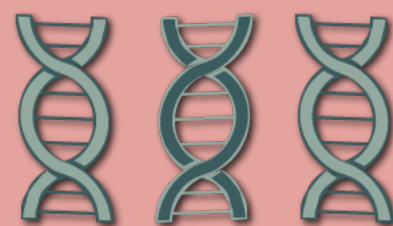


The diversity in autism traits from person to person can make it hard to study, but we can focus on those who share a common trait.



We looked at the genes of over 100 autistic children with big brains and their parents.

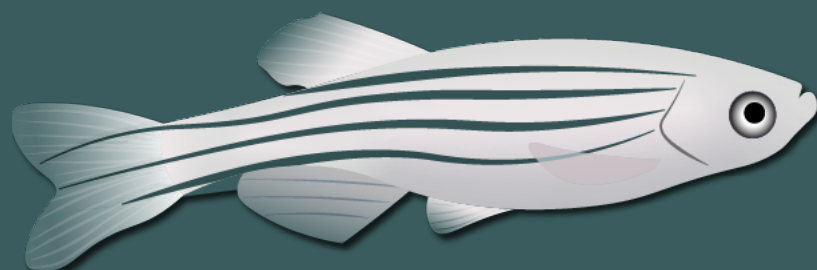
We found new gene changes in the children that weren't in their parents.



Zebrafish share over

70%

of the same genes as humans!



In zebrafish, we can “edit” genes. This makes them very helpful to learn what certain genes do.

We changed genes to mimic the changes we saw in autistic children with big brains.

Then, we measured the size of the zebrafish brains.

Some genes were previously known to be related to autism, but some were completely new.

We found a gene called **YTHDF2** that impacted brain size.

More of this gene resulted in bigger zebrafish brains



Less of this gene resulted in smaller zebrafish brains

This study showed us how zebrafish can help us understand what different genes do and how they affect the brain.

We have many more genes to study. We are excited to learn more about how these genes relate to autism and brain development.

Larger than is typical compared to the rest of the body



**Disproportionate megalencephaly**

Big

Brain

Occurs in **15%** of autistic boys



More likely to have intellectual disability



Fewer language gains over time