CREATION OF AN INTERACTIVE GENE EXPRESSION ATLAS FOR PRADER-WILLI SYNDROME PATIENTS, FAMILIES, AND RESEARCHERS

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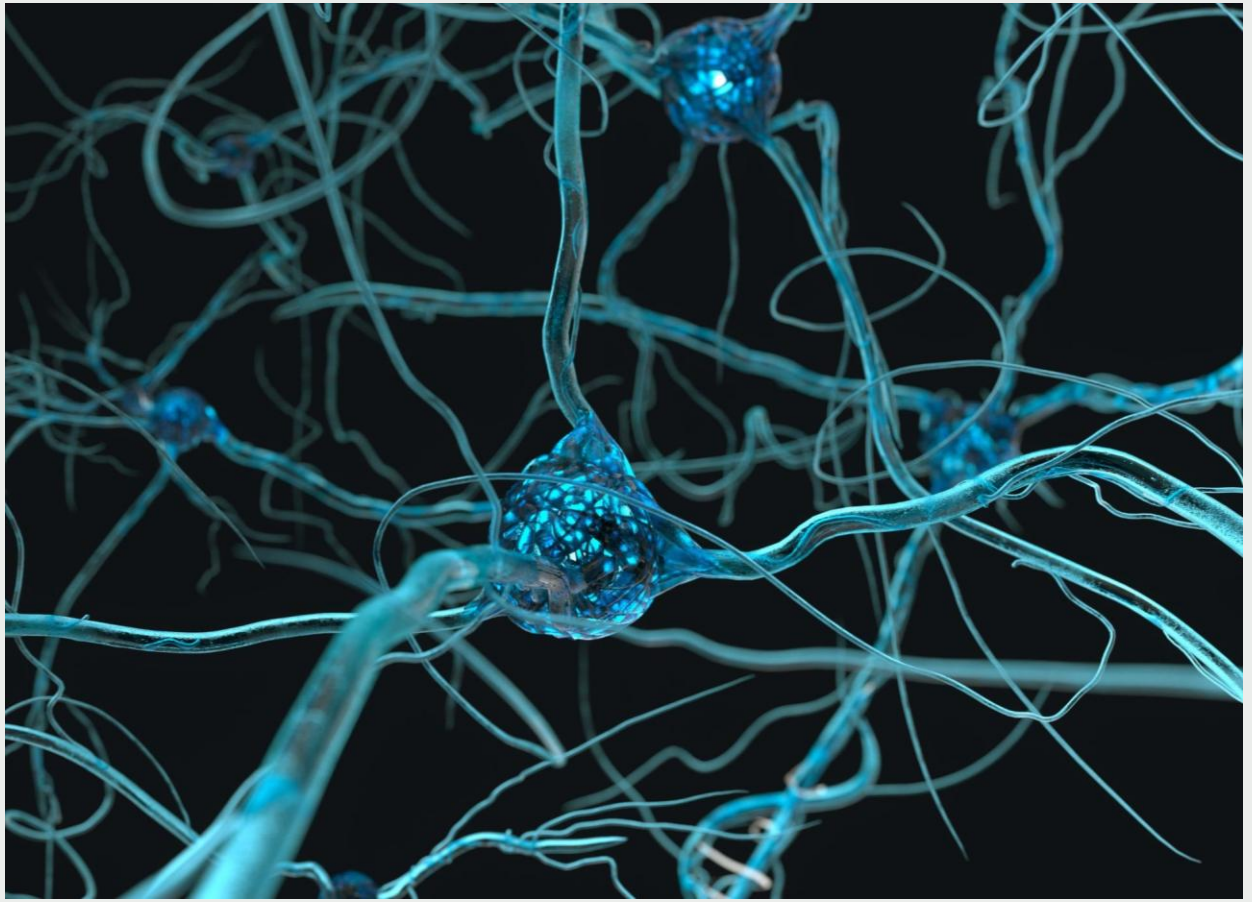
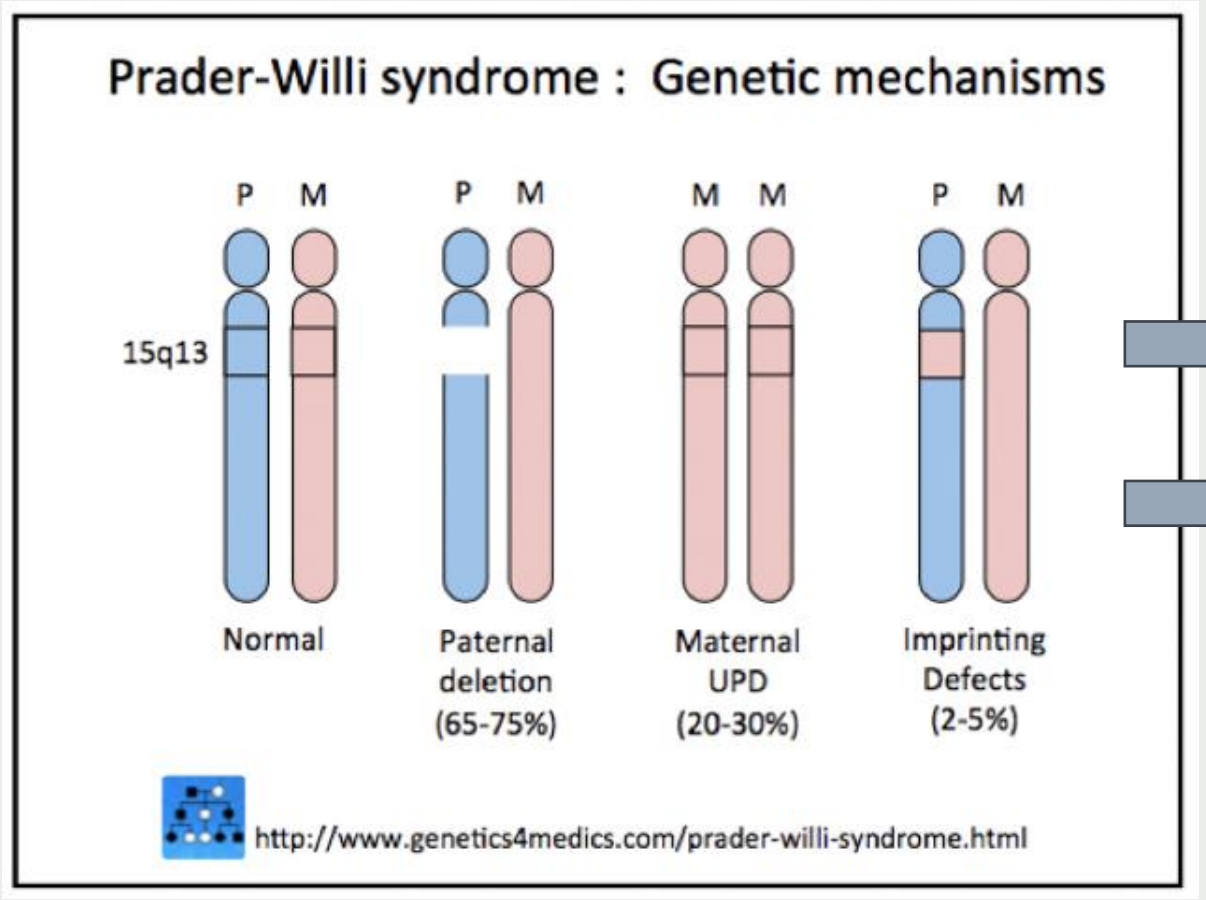


Symptoms in Prader-Willi Syndrome

Hyperphagia and obesity

Hypogonadism and delayed puberty

Social anxiety, temper outbursts

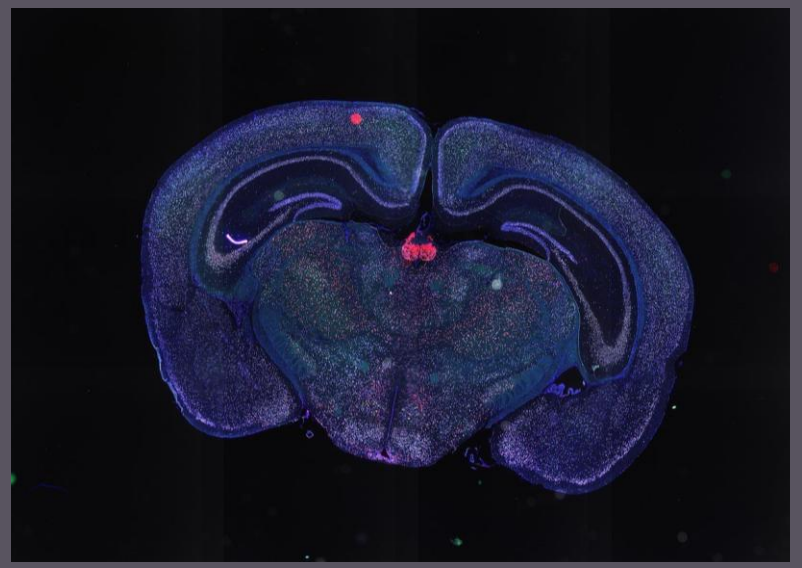


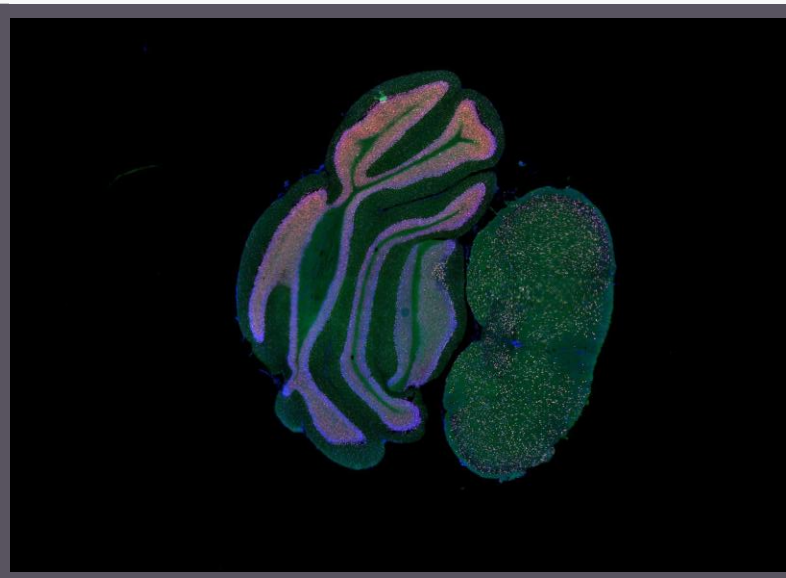
Loss of Snord116 non-coding RNA

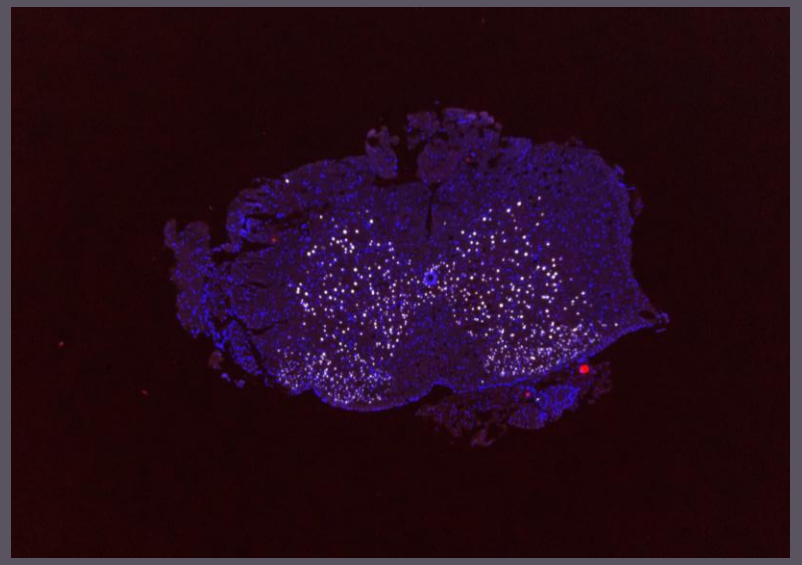
Reduction of Nhlh2 mRNA expression

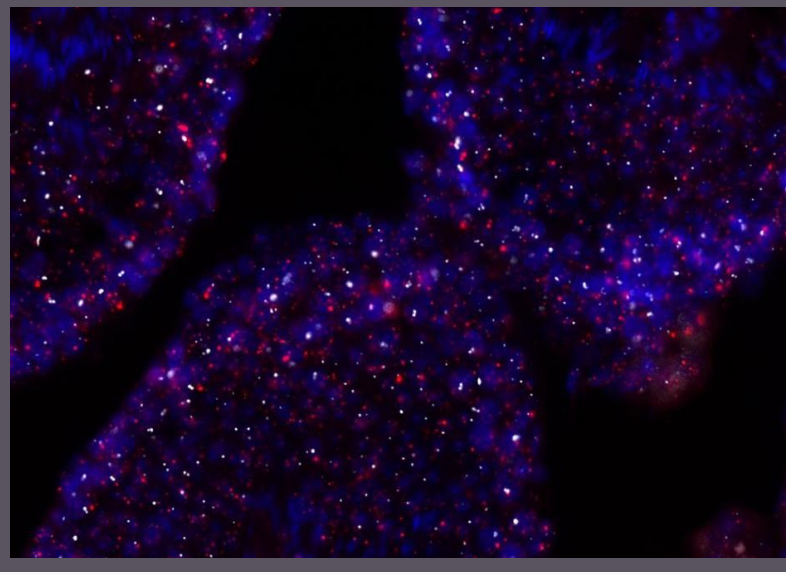
Snord116 and Nhlh2 are expressed in the brain

As well as some peripheral tissues such as ovaries, testis, liver, heart



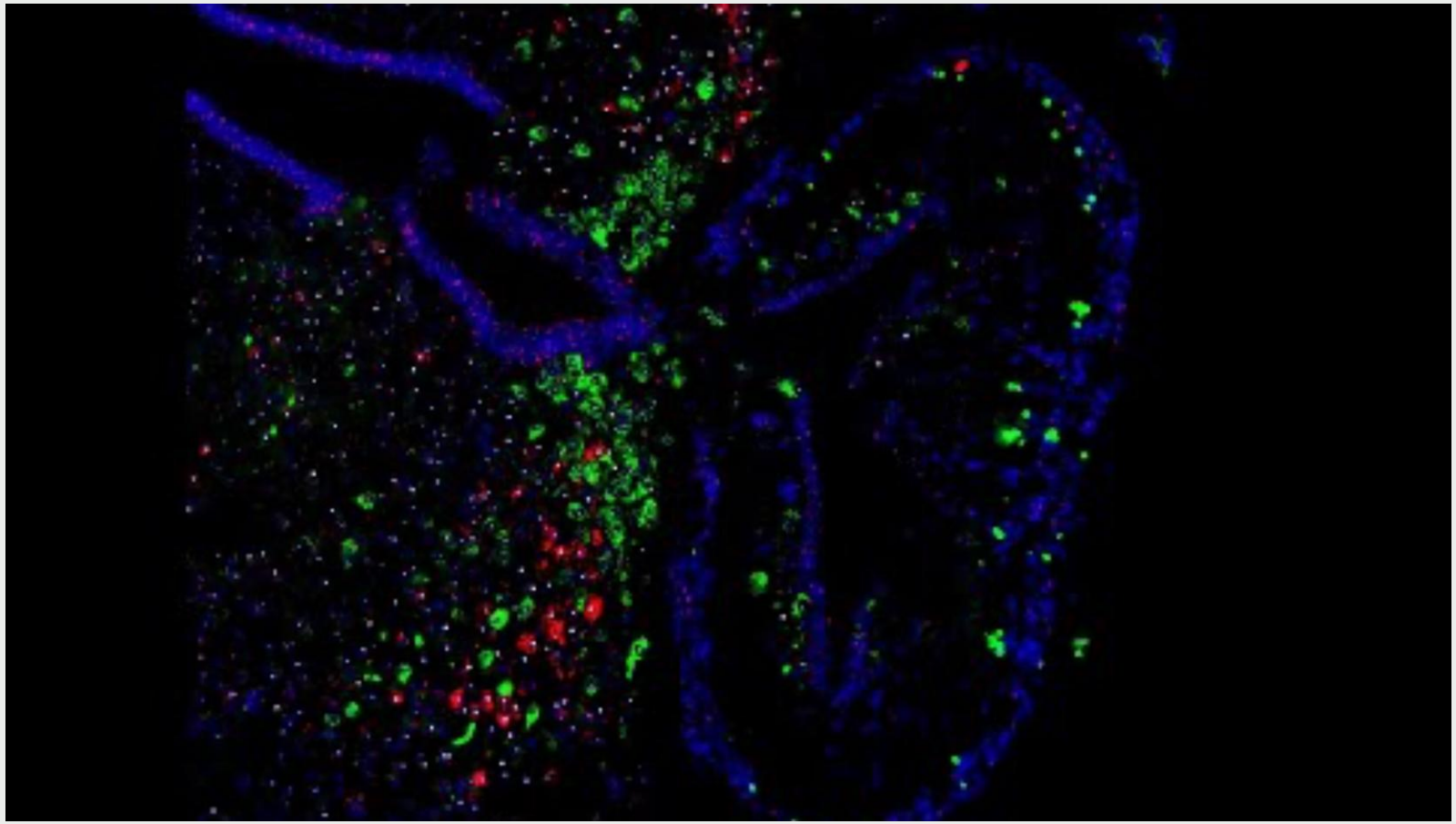






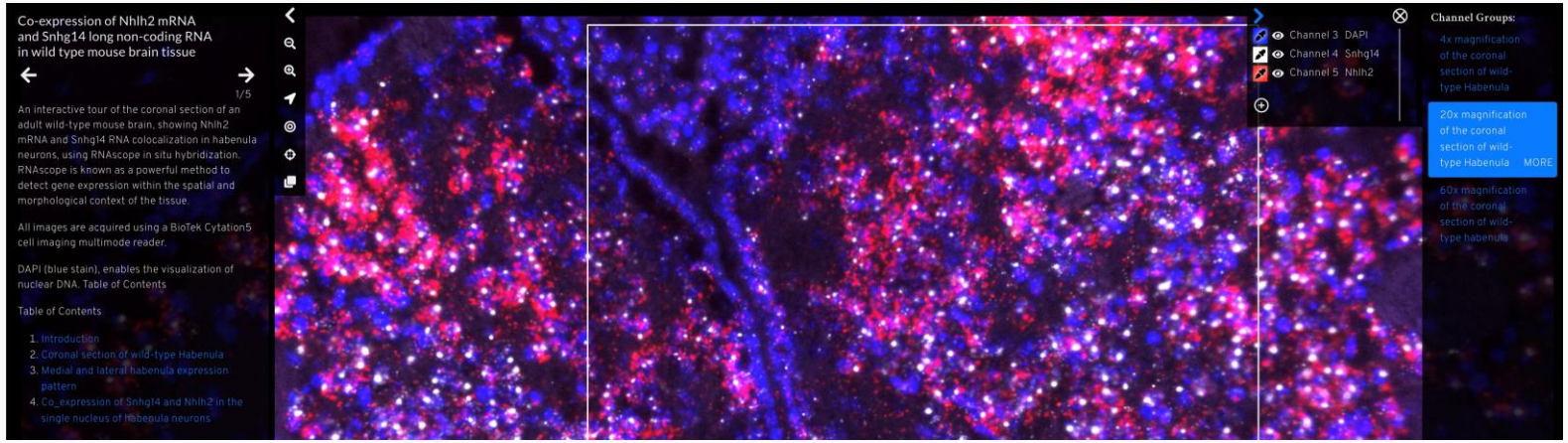
Methodology

- Images were created using **RNAScope Fluorescent In Situ Hybridization Technology** to label individual neurons with each RNA type.
- Pictures were captured using several different types of microscopy, and the pictures were exported as tiff files.
- **ImageJ software** was used to color-correct, resize, and crop the tiff files, which were then converted into an OME-tiff stack via the command-line tool bftools.
- Once this process was complete, the photos would then be imported into **Minerva**, where the correct channel colors and labels were applied for image readability.
- Stories to accompany the pictures were written, including both a general overview of the picture and a more scientific “deep dive” into the data.
- This process was cataloged so that future stories could be developed quickly and consistently.



Here is a link to an unlisted Youtube video

Visit the interactive atlas!



THANK YOU!

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