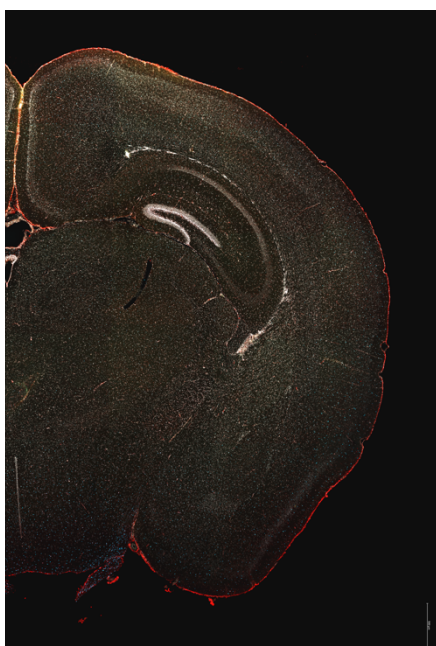


## Shining a Light on the Adolescent Mouse Brain



**Created by: Imre Papp**  
with Kara Goodkey, supervised by  
Anastasia Voronova

An image taken on a confocal microscope of a postnatal day 15 aged mouse brain slice (coronal section) showing the hippocampus after performing immunohistochemistry. This was done as part of a study looking at a novel mouse model my lab predicts could be a good candidate for modeling neurodevelopmental KBG syndrome (similar to ASD, with additional morphological and behavioural phenotypes). This mouse model would allow for behavioural, physiological, and neuroanatomical testing of KBG

syndrome, allowing the world to better understand its mechanics and its effects on impacted individuals. Image was obtained using a Zeiss Axio Imager using Zen Pro software. Stains in this particular image are GFP staining (green) as well as Olig2 (blue) and CC1 (red). These stains were used to analyze levels of oligodendrocyte progenitor cells as well as mature oligodendrocytes in the hippocampi of these mice, comparing for any differences in control vs mutant mice. This mouse model is completely new, so we must uncover all of its effects on the developing (and developed) murine brain.

## Fluorescent salicylidine-4-toluidine



**Created by: Yvan Sarlieve**  
CHEM 460, University of Alberta

The compound in the photo is salicylidine-4-toluidine, which displays intense fluorescent emission when irradiated with shortwave UV. It was synthesized in one of my advanced-level organic chemistry laboratory experiments. It has pharmaceutical properties and has been found to be an efficient agent against tuberculosis. The procedure to make it is also highly favourable, as combining the two reagents in an environmentally friendly, biodegradable solvent system results in the product crystals crashing out of the solution after 5 minutes.

Personally, the synthesis of this compound represents the progressive increase in skill that I have acquired over the course of my chemistry major. It also shows how, as courses become more advanced, the performed lab work becomes more and more relevant to real-life situations. There is a focus of the organic chemistry courses towards the field of pharmaceuticals, which I have found to be quite fascinating. Finally, there is a strong sense of satisfaction in being an advanced chemistry student, who is now capable of going into the lab and making a bright yellow powder that glows. I know that a younger me would have been absolutely thrilled to see this experiment performed, and this thrill remains with me to this day.

