



Reference Atlas

Marmoset Gene Atlas –VERSION 1 (2016)

The Neonate Marmoset Reference Atlas was created by Dr. Yoshiaki Kita and Dr. Tsutomu Hashikawa in the coronal plane. The reference atlases are high-resolution, Web-based digital brain atlases accompanied by a systematic, hierarchically organized taxonomy of marmoset brain structures. Current version mainly focused on structures in thalamus, hypothalamus, midbrain and cerebellum. Atlas for cortical structures will be added in later version when detail brain connection results are provided by Brain/MINDS connectomics teams.

- The atlases allow users to directly compare gene expression patterns to neuroanatomical structures.
- The atlases provide a standard neuroanatomical ontology for determining structural annotation and aid in the construction of a detailed searchable gene expression database. The coronal reference atlas consists of 60 coronal sections evenly spaced at 196 μm intervals and annotated to detail numerous brain structures.
- A section which has the anterior commissure is selected as a land mark section and 16 sections anterior to the landmark section and 43 sections posterior to the landmark sections are collected (total 60 sections/probe). ISH images are aligned to the reference atlas using the landmark section.
- Reference atlas: "The Marmoset Brain. In Stereotaxic Coordinates" Paxinos et al., Academic Press. First edition 2012.
- Layer 5 of cortex is illustrated by using ETV1 expression.