



Reference Atlas

Marmoset Gene Atlas –VERSION 2 (2018)

An atlas for cortical structures was added to the Neonate Marmoset Reference Atlas (Version 1) by Dr. Tsutomu Hashikawa on the basis of an atlas for adult marmoset brain (Hashikawa et al., 2015).

Reference: Hashikawa, T., Nakatomi, R. and Iriki, A. Current models of the marmoset brain. *Neurosci Research* **93**, 116–127 (2015)

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. The current version is mainly focused on structures in the thalamus, hypothalamus, midbrain and cerebellum. An atlas for cortical structures will be added in a later version when detailed brain connection results are provided by the 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 17 sections anterior to the landmark section and 42 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



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et al., Academic Press. First edition 2012.

- Layer 5 of cortex is illustrated by using ETV1 expression.