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### Evaluation of mouse gutter shaped root(s) as a quantitative trait using micro-CT

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**Abstract** This study establishes a new measurement method for quantification of mouse gutter shaped root (GSR). To evaluate GSR, we made clear the completion period of root formation by continuous observation from 9 days after birth to 82 days using a micro-CT. We observed that the mouse root formation is complete at 35 days after birth. We established a schema to evaluate the Dental Root Fusion Rate (DRFR) on a CT image and we could evaluate DRFR as a quantitative trait using this image. Consequently we could establish a new method for measurement of mouse gutter shaped roots as a quantitative trait.

**Key words** Gutter shaped roots (GSRs), Micro-CT, Morphology, Mouse, Root development



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