

博士論文発表会(公聴会)のお知らせ

下記の通り博士論文発表会(公聴会)を開催しますので、お知らせいたします。

日時: 11月16日(木) 13時00分から

場所: 理学研究科棟 E211

タイトル: Human-biased TMEM25 expression promotes expansion of neural progenitor cells
to alter cortical structure in the developing brain

(大脳皮質発達における TMEM25 のヒト特異的発現レベル制御による
神経幹細胞の増殖促進と層構造変化)

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本セミナーは統合生命科学研究科セミナーとしてプログラム共同セミナーの対象です。

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要旨

Cortical expansion has occurred during human brain evolution. By comparing human and mouse RNA-seq datasets, we found that transmembrane protein 25 (TMEM25) was much more highly expressed in human neural progenitors (NPCs). Overexpression of either human TMEM25 or mouse Tmem25 similarly promoted mouse NPC proliferation in vitro. Mimicking human-type expression of TMEM25 in mouse ventricular cortical progenitors accelerated proliferation of basal radial glia (bRG) and increased the number of upper-layer neurons in vivo. By contrast, RNA-seq analysis, and pharmacological assays showed that knockdown of TMEM25 in cultured human NPCs compromised the effects of extracellular signals, leading to cell cycle inhibition via Akt repression. Thus, TMEM25 can receive extracellular signals to expand bRG in human cortical development.