

### ***Supplementary Information***

#### **Essential role of the nuclear isoform of *RBFOX1*, a candidate gene for autism spectrum disorders, in the brain development**

Nanako Hamada<sup>1,2</sup>, Hidenori Ito<sup>1</sup>, Takuma Nishijo<sup>3</sup>, Ikuko Iwamoto<sup>1</sup>, Rika Morishita<sup>1</sup>, Hidenori Tabata<sup>1</sup>, Toshihiko Momiyama<sup>3</sup> and Koh-ichi Nagata<sup>1,4</sup>

<sup>1</sup>Department of Molecular Neurobiology, Institute for Developmental Research, Aichi Human Service Center, Kasugai; <sup>2</sup>Research Fellow of Japan Society for the Promotion of Science;

<sup>3</sup>Department of Pharmacology, Jikei University School of Medicine, Tokyo; <sup>4</sup>Department of Neurochemistry, Nagoya University Graduate School of Medicine, Nagoya, Japan

### ***Supplementary Videos***

Supplementary video 1: Time-lapse imaging of morphological change of control neurons migrating in upper IZ - lower CP.

Supplementary video 2: Time-lapse imaging of morphological change of Rbfox1-iso1-deficient neurons stranded in upper IZ - lower CP.

Supplementary video 3: Time-lapse imaging of morphological change of control neurons migrating in CP.

Supplementary video 4: Time-lapse imaging of morphological change of Rbfox1-iso1-deficient neurons migrating in CP.

Supplementary video 5: Time-lapse imaging of N-C distance dynamics of a control neuron migrating in CP.

Yellow and white arrowheads indicate centrosome and nucleus, respectively.

Supplementary video 6: Time-lapse imaging of N-C distance dynamics of an Rbfox1-iso1-deficient neuron migrating in CP.

Yellow and white arrowheads indicate centrosome and nucleus, respectively.