Supplemental information

Radial migration dynamics is modulated in a laminar and area-specific manner during primate corticogenesis.

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1) Supplemental figures

**Figure S1.** (A) Transect of a A17 parasagittal organotypic slice 11 days after EGFP retroviral infection of cycling precursors at E65. A fraction of EGFP\textsuperscript{+} neurons have migrated and reached the CP. (B) Transect of a A17 parasagittal organotypic slice 14 days after retroviral infection at E78. EGFP\textsuperscript{+} neurons have reached the CP. VZ: ventricular zone, ISVZ: inner subventricular zone, IFL: inner fiber layer, OSVZ: outer subventricular zone, OFL: outer fiber layer, SP: subplate, CP: cortical plate.
Figure S2. Parasagittal transects of the embryonic occipital lobe. Blue and orange frames correspond to A17 and A18 regions respectively where observations were implemented, in non-folded regions. Neutral red staining. IG (E65), SG (E78). Scale bar: 2 mm.

Figure S3. (A) Sholl analysis comparison between A17 IG (light blue) and A17 SG (dark blue) in dissociated cells. (B) Graph showing the Log ratio of A17 IG to SG neuronal densities (intersections/ sampling volume) as a function of distance for in vitro and ex vivo conditions. The relationship between IG and SG is stable over distance under the two experimental conditions. (A) Average value +/- sem.

2) Supplemental movies

Supplemental Movie 1: 2-photon imaging of SG migration in A17 area. The cortical slices were infected with an EGFP retrovirus and the postmitotic neuron migration was imaged in real time, 4 days after infection. The acquisitions were done every 1.5h. The movie runs over a 142.5 hours period. Related to Figure 2.

Supplemental Movie 2: A17 SG neuron migration behavior. Example of A17 neuronal migration on slices using 2-photon imaging. An infected EGFP expressing neuron is imaged during its migration from the OSVZ to the SP over 49.5 hours. The acquisitions were done every 1.5h. The red arrow points the cell body and turns blue when the neuron is pausing (pausing time: 9 hours). Related to Figure 2.
3) Key resources table

| REAGENT or RESOURCE | SOURCE | IDENTIFIER |
|---------------------|--------|------------|
| Antibodies          |        |            |
| Chicken anti-EGFP   | Invitrogen | A10262    |
| Rabbit anti-Ki67    | Neomarker | RM9106S1  |
| Mouse anti-Vimentin | Sigma  | V6630      |
| Mouse anti-NeuN     | Millipore | MAB377    |
| Biological Samples  | Laboratory | N/A      |

| REAGENT or RESOURCE | SOURCE | IDENTIFIER |
|---------------------|--------|------------|
| DAPI                | Molecular Probes | D1306    |
| Experimental Models: Cell Lines |
| Macaque cynomolgus (macaca fascicularis) | Noveprim Europe | Camarney SL, Spain |
| Recombinant DNA     |        |            |
| pCMV-mCherry        | Clontech | PT3974-5  |
| pCMV-EGFP retrovirus | Betizeau et al., 2013 | N/A      |
| Software and Algorithms |
| Image J 1.53c       | NIH, USA | http://rsb.info.nih.gov/ij/ |
| MTrackJ (Image J)   | NIH, USA | http://rsb.info.nih.gov/ij/ |
| R OpenSource Statistical Software, glm (Generalized Linear Model) | Vienna, Austria | https://www.r-project.org |
| R MASS package      | Venables and Ripley, 2002 | http://www.stats.ox.ac.uk/pub/MASS |
| R segmented package | Muggeo, 2008 | https://cran.r-project.org/doc/Rnews/ |

Contact for Reagent and Resource Sharing
Reagents request must be addressed to Colette Dehay (colette.dehay@inserm.fr).

5) n values

| Figure | n |
|--------|---|
| 1G     | IG : 435 cells ; SG : 848 cells |
| 2C/2D – A17 SG | 2 brains, 2 hemispheres, 5 slices, 21 cells |
| 2C – A17 IG   | 1 brain, 1 hemisphere, 3 slices, 8 cells |
| 2D – A18 SG   | 2 brains, 2 hemispheres, 4 slices, 19 cells |
| 2F     | IG: 1 brain, 2 hemispheres, OFL: 81 cells, SP: 166 cells |
|         | SG: 1 brain, 1 hemisphere, OFL: 207 cells, SP: 242 cells |
|   |   |
|---|---|
| 2G | IG: 1 brain, 2 hemispheres, OFL: 83 cells, SP: 158 cells  
   | SG: 1 brain, 2 hemispheres, OFL: 141 cells, SP: 308 cells |
| 2H – A17 | IG: 1 brain, 2 hemispheres, 166 cells; SG: 1 brain, 1 hemisphere, 242 cells |
| 2H – A18 | IG: 1 brain, 2 hemispheres, 158 cells; SG: 1 brain, 2 hemispheres, 308 cells |
| 3F | A17: 2 brains, 2 hemispheres, 151 cells; A18: 2 brains, 3 hemispheres, 169 cells |
| 3G | 2 brains, 2 hemispheres, A17: 46 cells; A18: 44 cells |
| 3H | 2 brains, 2 hemispheres, A17: 44 cells; A18: 44 cells |
| 3J | A17: 2 brain, 3 sections, 125 ROI; A18: 2 brain, 3 sections, 119 ROI |
| 4E/4J | A17: 23 tracks; A18: 23 tracks |
| 4F/4G | A17: 9 tracks; A18: 8 tracks |
| 4I | A17: 10 tracks; A18: 13 tracks |
| 4L | 10 cells, 29 protrusions |
| 4M | A17: 14 cells, 32 protrusions; A18: 10 cells, 23 protrusions |
| S3A | IG: 1 brain, 1 experiment, 7 cells; SG: 2 brains, 3 experiments, 13 cells |