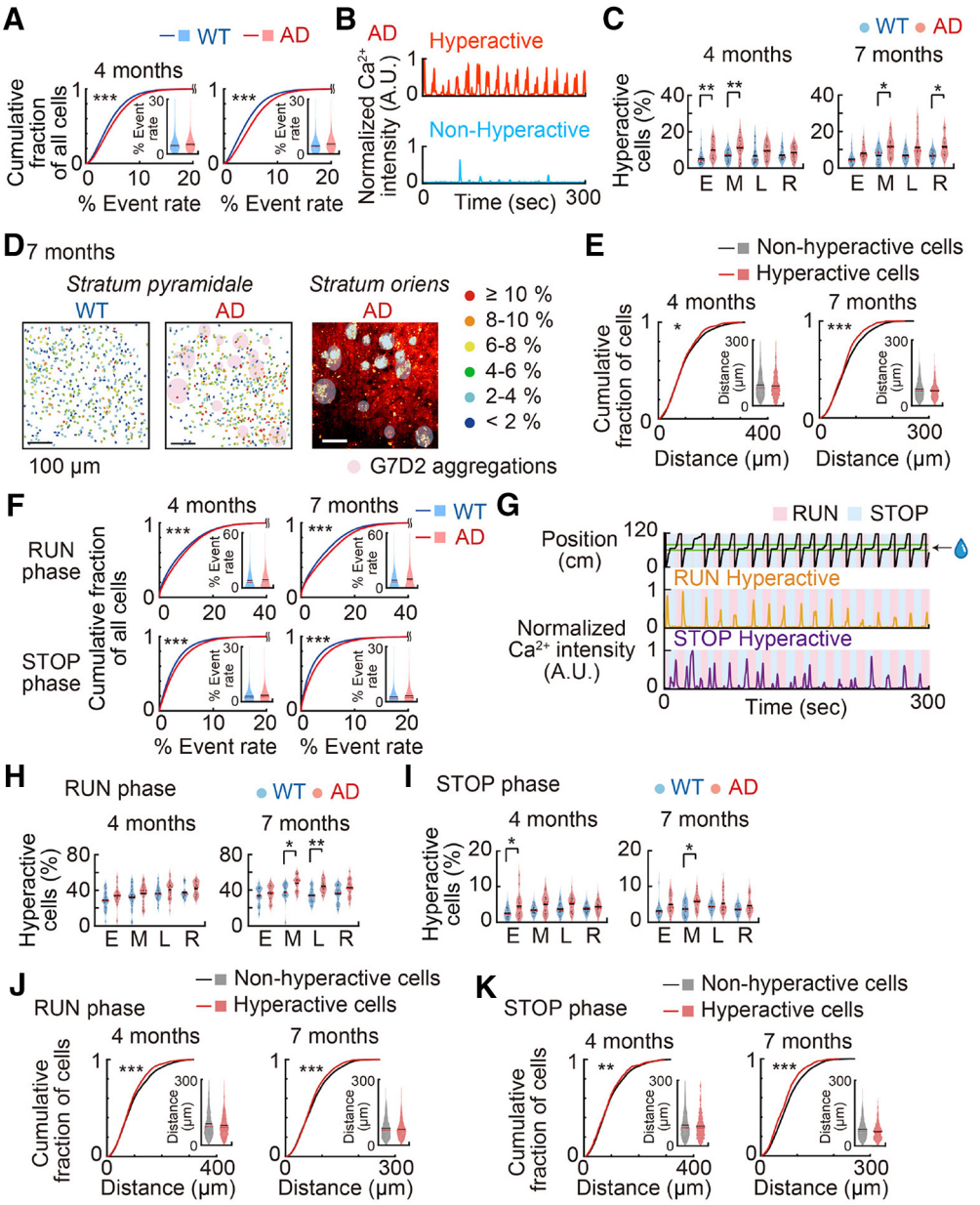
Erratum

Erratum: Takamura et al., "Modality-Specific Impairment of Hippocampal CA1 Neurons of Alzheimer's Disease Model Mice"

In the article, "Modality-Specific Impairment of Hippocampal CA1 Neurons of Alzheimer's Disease Model Mice," by Risa Takamura, Kotaro Mizuta, Yukiko Sekine, Tanvir Islam, Takashi Saito, Masaaki Sato, Masamichi Ohkura, Junichi Nakai, Toshio Ohshima, Takaomi C. Saido, and Yasunori Hayashi, which appeared on pages 5315–5329 of the June 16, 2021 issue, Figure 6, *A* and *F*, appears incorrectly. In Figure 6, *A* and *F*, labels on the *x*-axis were duplicated. These have been corrected in the figure below.



continued

Figure 6. Increase of hyperactive cells near G7D2 aggregates in AD-G-CaMP7 mice. ***A***, Cumulative histograms and violin plots of event rate of active neurons. Event rate of 4- and 7-month-old WT-G-CaMP7 and AD-G-CaMP7 mice in total frames. Four months old: WT = five mice (57,090 cells), AD = five mice (53,776 cells); $p = 1.50 \times 10^{-237}$, Z = −32.91. Seven months old: WT = four mice (42,032 cells), AD = four mice (40,076 cells), $p = 0.00$, Z = −44.10. Wilcoxon rank sum test (***$p < 0.001$). ***B***, Examples of G-CaMP7 fluorescence of hyperactive (red) and nonhyperactive (blue) cells. Hyperactive cells were defined as those having activity in ≥10% of all frames. ***C***, Violin plots of proportion of hyperactive cells among all active cells in early (E), middle (M), late (L), and relearning (R) periods during 10 min imaging in 4- and 7-month-old WT-G-CaMP7 and AD-G-CaMP7 mice. Four months old: WT = five mice (20–25 sessions), AD = five mice (24–25 sessions), $p = 5.78 \times 10^{-8}$ by two-way ANOVA effect of genotype, $F_{(1,186)} = 31.98$. Seven months old: WT = four mice (18–20 sessions), AD = four mice (20 sessions), $p = 2.15 \times 10^{-8}$ by two-way ANOVA effect of genotype, $F_{(1,149)} = 35.12$. Two-way ANOVA followed by a Tukey–Kramer *post hoc* test (*$p < 0.05$, **$p < 0.01$). ***D***, Example of the maximum intensity projection image at the stratum oriens and the cell map of the stratum pyramidale with cellular activities indicated with red dots (≥10%), orange dots (8–10%), yellow dots (6–8%), green dots (4–6%), light blue dots (2–4%), blue dots (<2%), and G7D2 aggregates with a pink ellipse from 7-month-old AD-G-CaMP7 mice. ***E***, Cumulative histograms and violin plots of shortest distance from G7D2 aggregates to hyperactive cell (red) and nonhyperactive cells (black) in 4- and 7-month-old AD-G-CaMP7 mice. Four months old: AD = four mice (hyperactive = 4165 cells, nonhyperactive = 40,494 cells), $p = 0.011$, Z = −2.54. Seven months old: AD = four mice (hyperactive = 4275 cells, nonhyperactive = 35,801 cells), $p = 7.92 \times 10^{-14}$, Z = −7.47. Wilcoxon rank sum test (***$p < 0.001$). ***F***, Cumulative histograms and violin plots of event rate of active neurons. Event rate of WT-G-CaMP7 and AD-G-CaMP7 mice in run frames (top) and stop frames (bottom). RUN 4 months old: $p = 1.24 \times 10^{-86}$, Z = −19.73; 7 months old: $p = 2.53 \times 10^{-86}$, Z = −19.69. STOP 4 months old: $p = 1.15 \times 10^{-170}$, Z = −27.85; 7 months old: $p = 6.48 \times 10^{-210}$, Z = −30.92. Wilcoxon rank sum test (***$p < 0.001$). ***G***, Examples of G-CaMP7 fluorescence traces of RUN hyperactive and STOP hyperactive cells. Hyperactive cells were defined as those having activity rate in ≥10% of frames either running (for RUN hyperactive cells) or resting (for STOP hyperactive cells) period. ***H, I***, Violin plots of proportion of RUN (***H***) and STOP (***I***) hyperactive cells in early (E), middle (M), late (L), and relearning (R) periods in 4- and 7-month-old WT-G-CaMP7 and AD-G-CaMP7 mice. ***H***, RUN 4 months old: $p = 0.0013$ by two-way ANOVA effect of genotype, $F_{(1,186)} = 10.72$; 7 months old: $p = 3.72 \times 10^{-7}$ by two-way ANOVA effect of genotype, $F_{(1,149)} = 28.31$. ***I***, STOP 4 months old: $p = 7.00 \times 10^{-7}$ by two-way ANOVA effect of genotype, $F_{(1,186)} = 26.39$. 7 months old: $p = 2.13 \times 10^{-5}$ by two-way ANOVA effect of genotype, $F_{(1,149)} = 19.28$. Two-way ANOVA followed by a Tukey–Kramer *post hoc* test (*$p < 0.05$, **$p < 0.01$). ***J, K***, Cumulative histograms and violin plots of shortest distance from G7D2 aggregates to each hyperactive cells (red) in comparison with distance to all cells (black) during run (***J***) and stop (***K***) in 4- and 7-month-old AD-G-CaMP7 mice. ***J***, RUN 4 months old: AD = four mice (hyperactive = 16,167 cells, nonhyperactive = 28,492 cells); $p = 5.26 \times 10^{-20}$, Z = −9.16; 7 months old: AD = four mice (hyperactive = 16,994 cells, nonhyperactive = 23,082 cells), $p = 1.43 \times 10^{-11}$, Z = −6.75. ***K***, STOP 4 months old: AD = four mice (hyperactive = 1939 cells, nonhyperactive = 42,720 cells), $p = 0.0055$, Z = −2.78; 7 months old: AD = four mice (hyperactive = 2050 cells, nonhyperactive = 38,026 cells), $p = 3.44 \times 10^{-20}$, Z = −9.20. Wilcoxon rank sum test (**$p < 0.01$, ***$p < 0.001$).

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