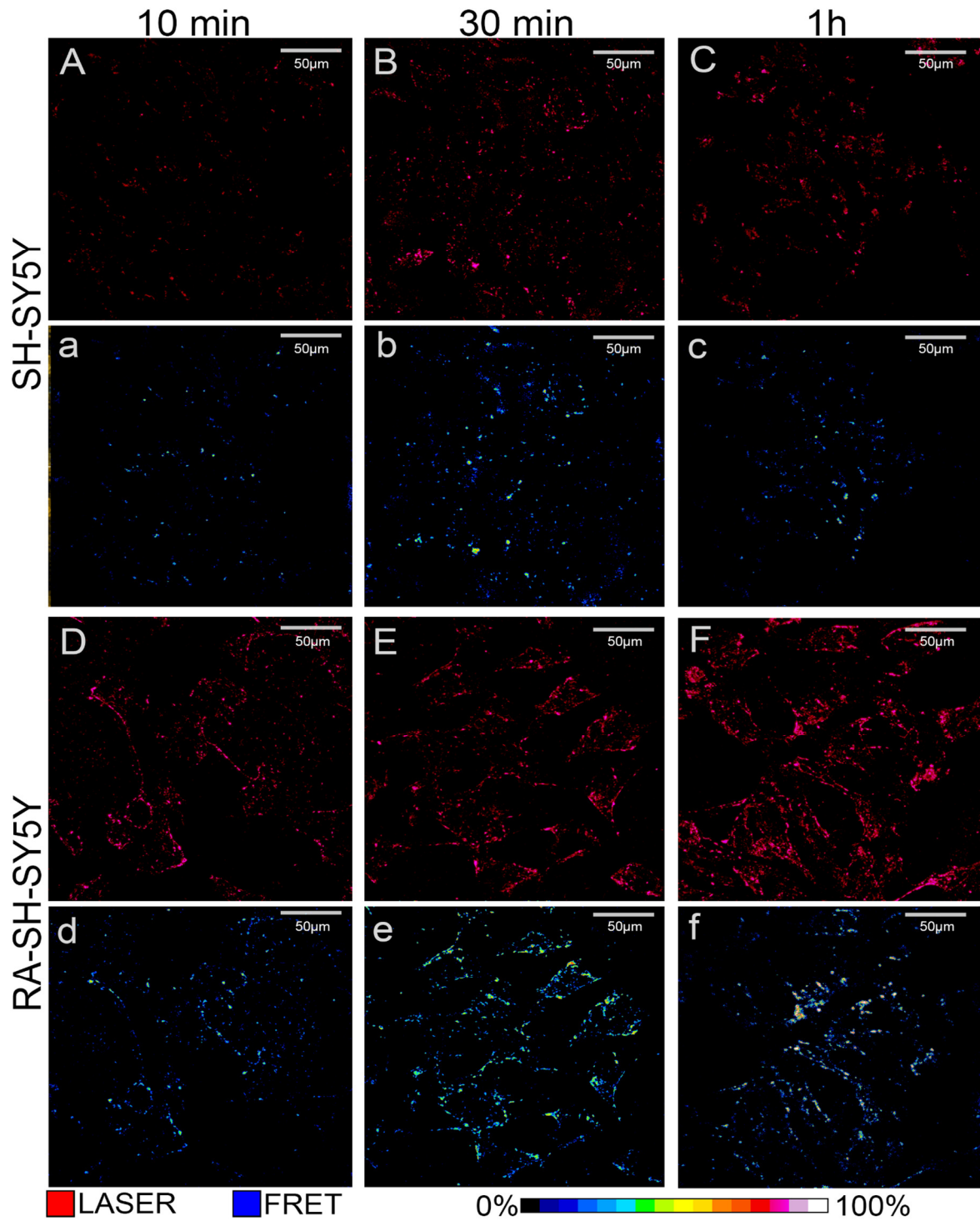
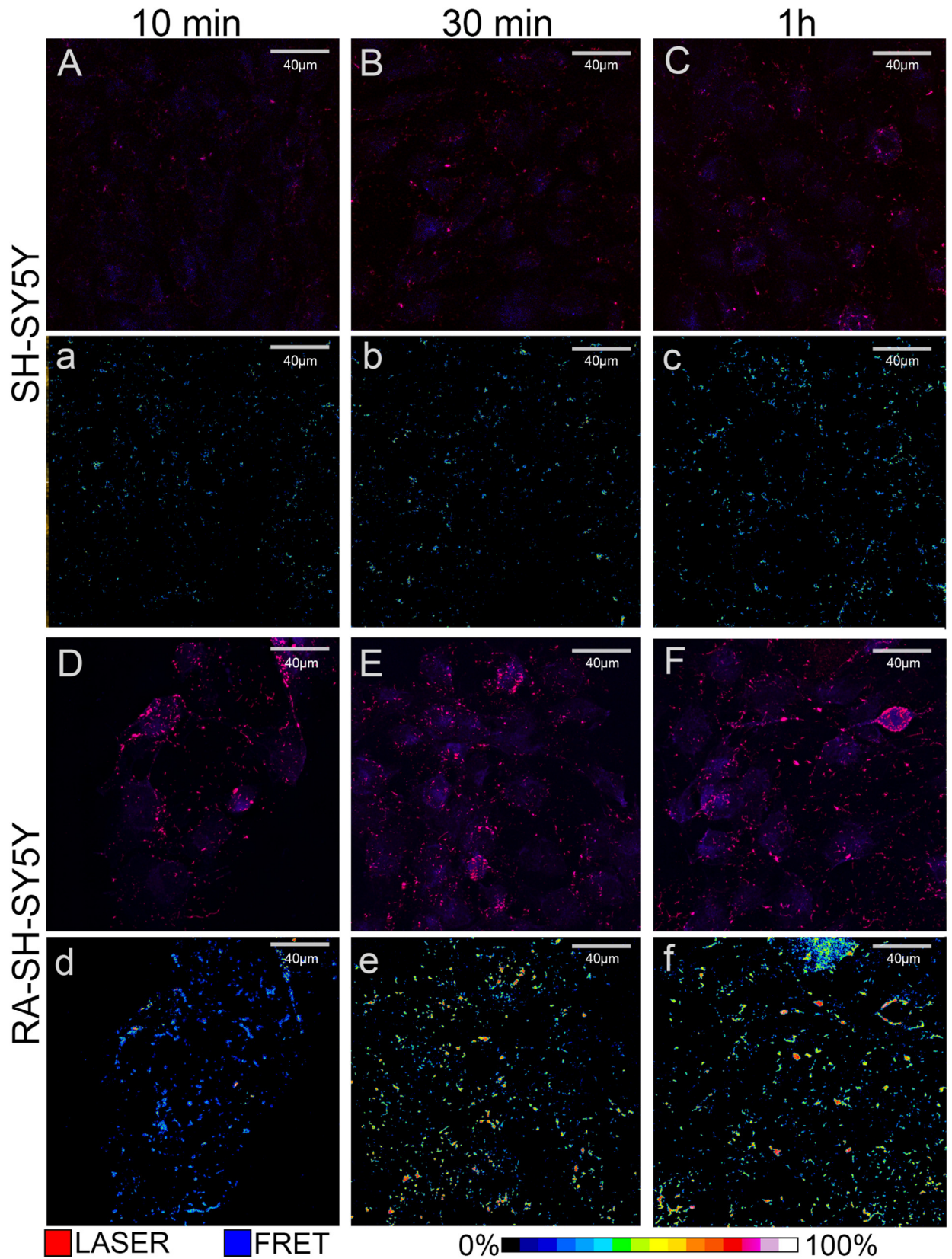


**Figure S1.** Immunofluorescence analysis of neuronal differentiation markers. Immunofluorescence analysis (A) and quantification of fluorescence signals (B) in SH-SY5Y and RA-SH-SY5Y neuroblastoma cells stained with Hoechst 33258 and with anti-neuronal maturation protein, NeuN, and anti-Synaptophysin (Syn).  $p < 0.05$  vs SH-SY5Y undifferentiated cells.



**Figure S2.** FRET interactions occurring between GM1 and Aβ-42 amyloid. (A–F) Immunofluorescence of Alexa Fluor 568 on immuno-labeled Aβ-42 amyloid deposits excited by 543 laser line (red) and FRET donor Alexa Fluor 488 on GM1 (blue) on SH-SY5Y (A–C) and RA-SH-SY5Y (D–F) cells from Figure 4; insets (a–f) show the corresponding FRET efficiency.



**Figure S3.** FRET interactions occurring between PolySia and A $\beta$ -42 amyloid. (A-F) Immunofluorescence of Alexa Fluor 568 on immuno-labeled A $\beta$ -42 amyloid deposits excited by 543 laser line (red) and FRET donor Alexa Fluor 488 on PolySia (blue) on SH-SY5Y (A-C) and RA-SH-SY5Y (D-F) cells from Figure 5; insets (a-f) show the corresponding FRET efficiency.

**Table S1.** Quantitative analysis of colocalization between A $\beta$  42 immunofluorescence and GM1 fluorescent staining. Mander's coefficients M1 (fraction of GM1 signal overlapping A $\beta$  42 signal) and M2 (fraction of A $\beta$  42 signal overlapping GM1 signal) were estimated. Two-way ANOVA followed by Bonferroni post hoc test was adopted to perform statistical analyses, the 2 independent variables being the RA treatment ( $n = 18$ ) and the different times of exposure to amyloid fibrils ( $n = 3$ ). Assuming M1 as the dependent variable: \*  $p < 0.01$  vs SH-SY5Y cells; °  $p < 0.05$  vs SH-SY5Y 10 m, §  $p < 0.05$  vs SH-SY5Y 30 m;  $F_{(5,12)} = 31$ . Assuming M2 as the dependent variable:  $F_{(5,12)} = 0.55$ .

	M1	M2
SH-SY5Y	$0.35 \pm 0.02$	$0.55 \pm 0.03$
RA-SH-SY5Y	$0.35 \pm 0.02$ *	$0.63 \pm 0.05$
SH-SY5Y 10 min	$0.11 \pm 0.003$	$0.58 \pm 0.01$
RA-SH-SY5Y 10 min	$0.32 \pm 0.003$ °§	$0.55 \pm 0.02$
SH-SY5Y 30 min	$0.1 \pm 0.003$	$0.51 \pm 0.03$
RA-SH-SY5Y 30 min	$0.31 \pm 0.007$ °§	$0.67 \pm 0.08$
SH-SY5Y 1 h	$0.23 \pm 0.01$ °§	$0.57 \pm 0.05$
RA-SH-SY5Y 1 h	$0.38 \pm 0.02$ °§	$0.66 \pm 0.08$