

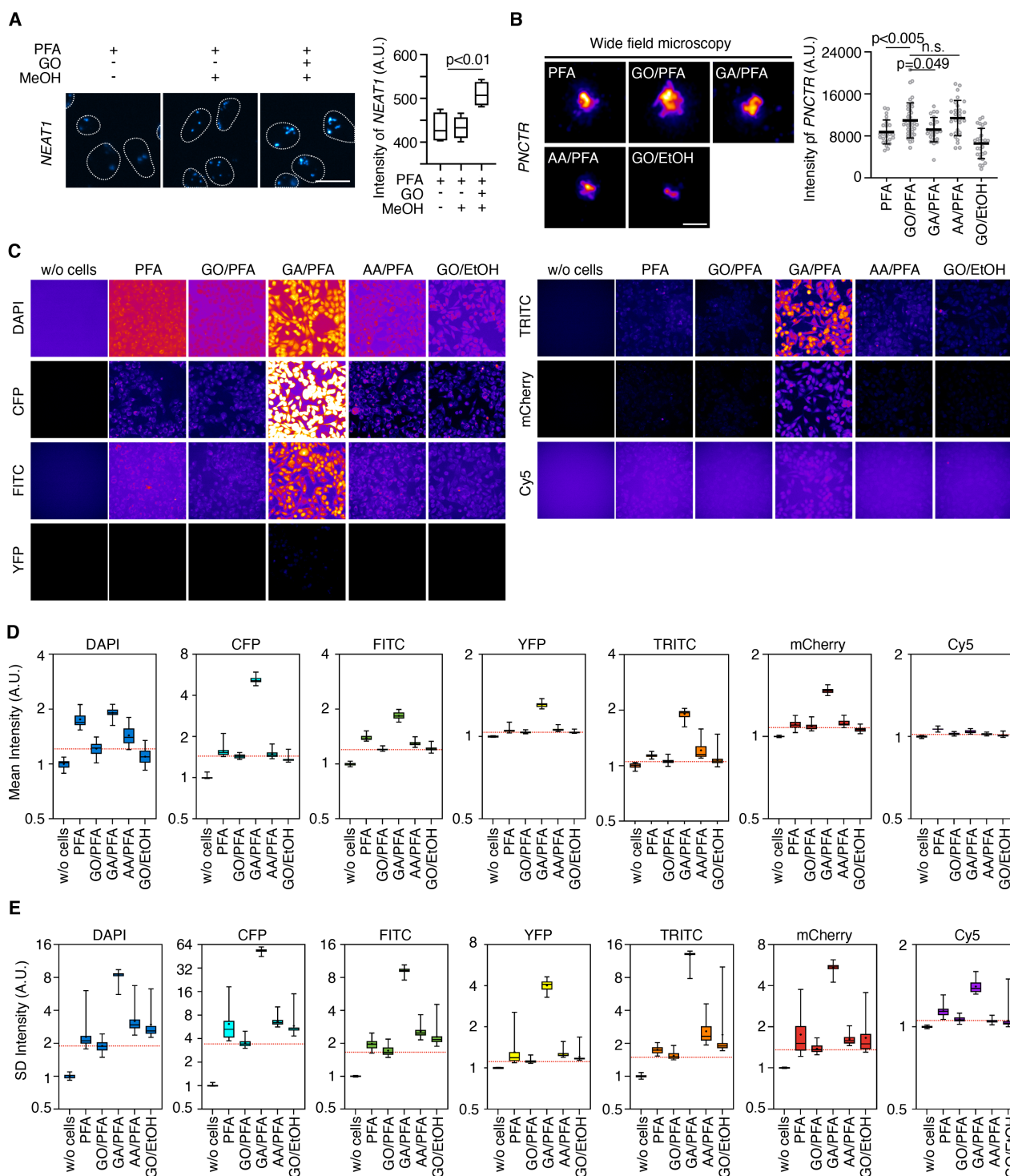


Figure S1. Addition of glyoxal improves the quality of FISH signals for RNAs in nuclear bodies

(A) RNA smFISH signals are improved upon the addition of 0.1% methanol into 0.4% glyoxal/4% PFA while addition of 0.1% methanol to PFA alone had no benefit. Statistics were counted from more than 20 cells labeled by FISH targeting the lncRNA *NEAT1* across three independent experiments under each condition. Scale bar: 10 μ m.

(B) GO/PFA fixation provides brighter signals in RNA FISH. Statistics were counted from more than 20 cells across three independent experiments under each condition. Mean $\pm$ SD and t-test are shown. Scale bar: 500 nm.

(C) Representative image of autofluorescence after different fixation conditions in commonly used channels.

(D)-(E) Statistics of the average background (D) and SD background (E) after different fixation conditions in commonly used channels. The red dot lines in (D) and (E) show the median of intensity in the GO/PFA fixation group.