**SUPPLEMENTAL MATERIAL**

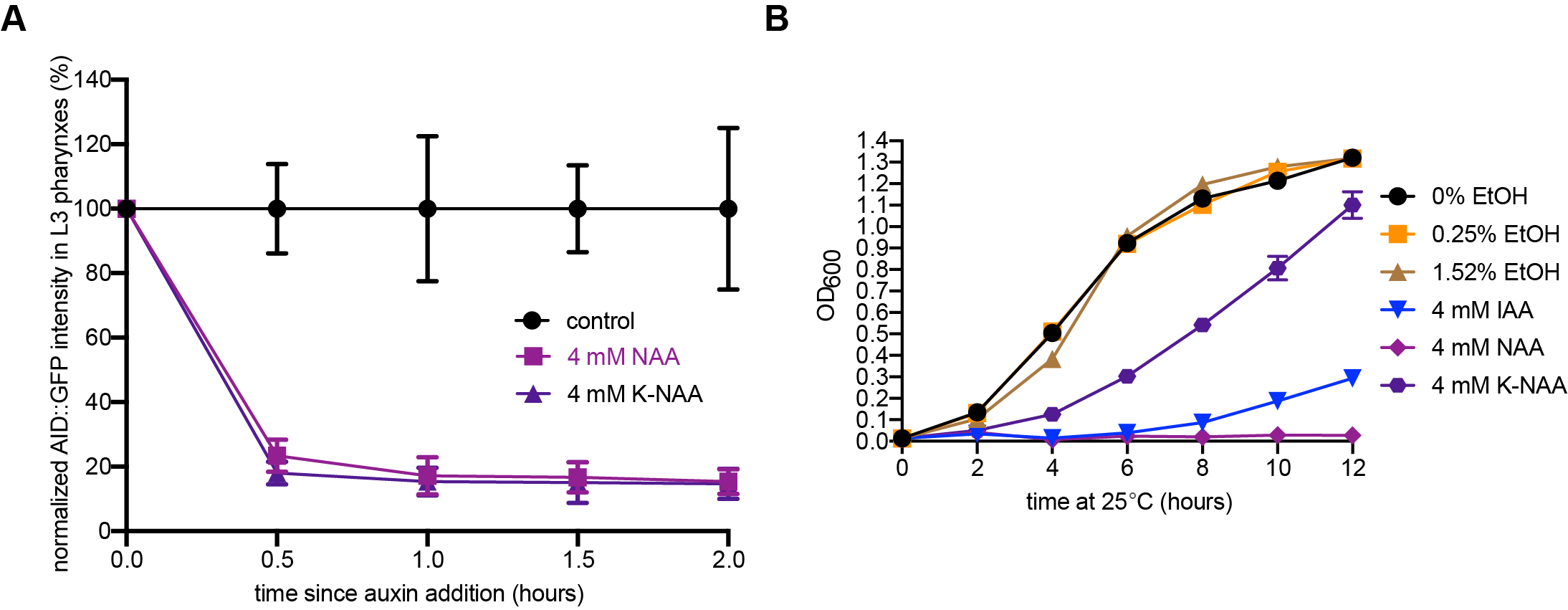
**Rapid degradation of *C. elegans* proteins at single-cell resolution with a synthetic auxin**

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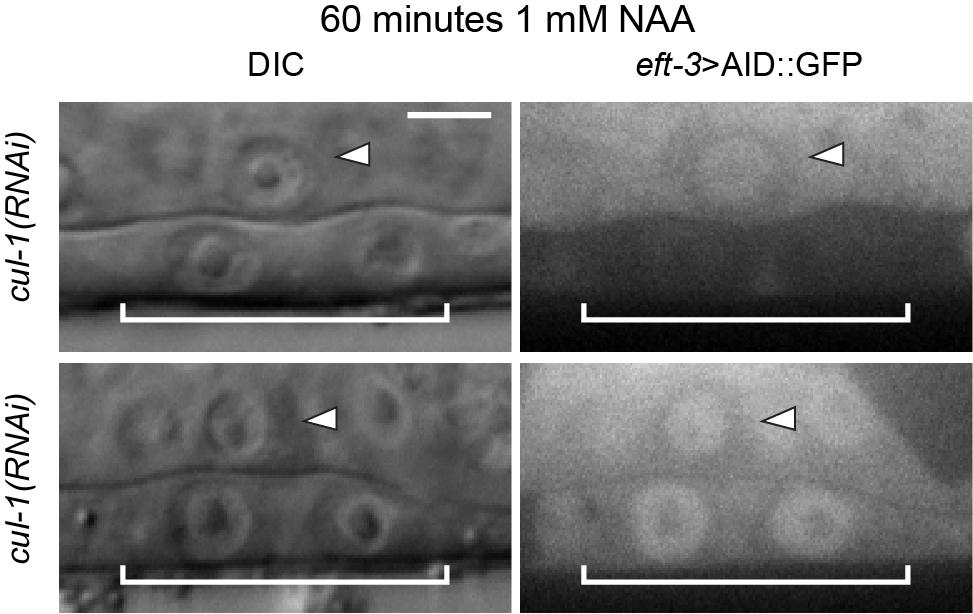
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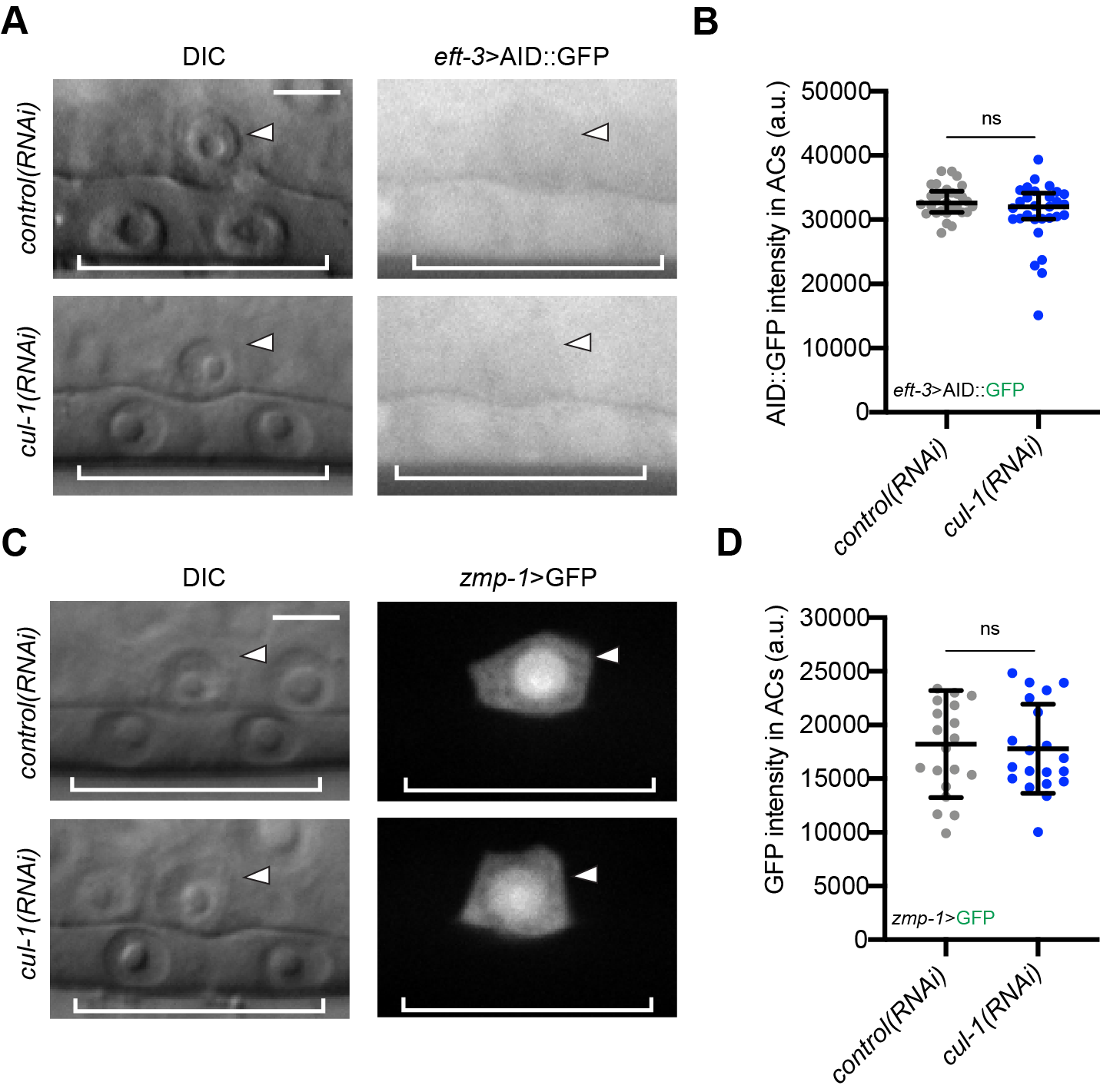
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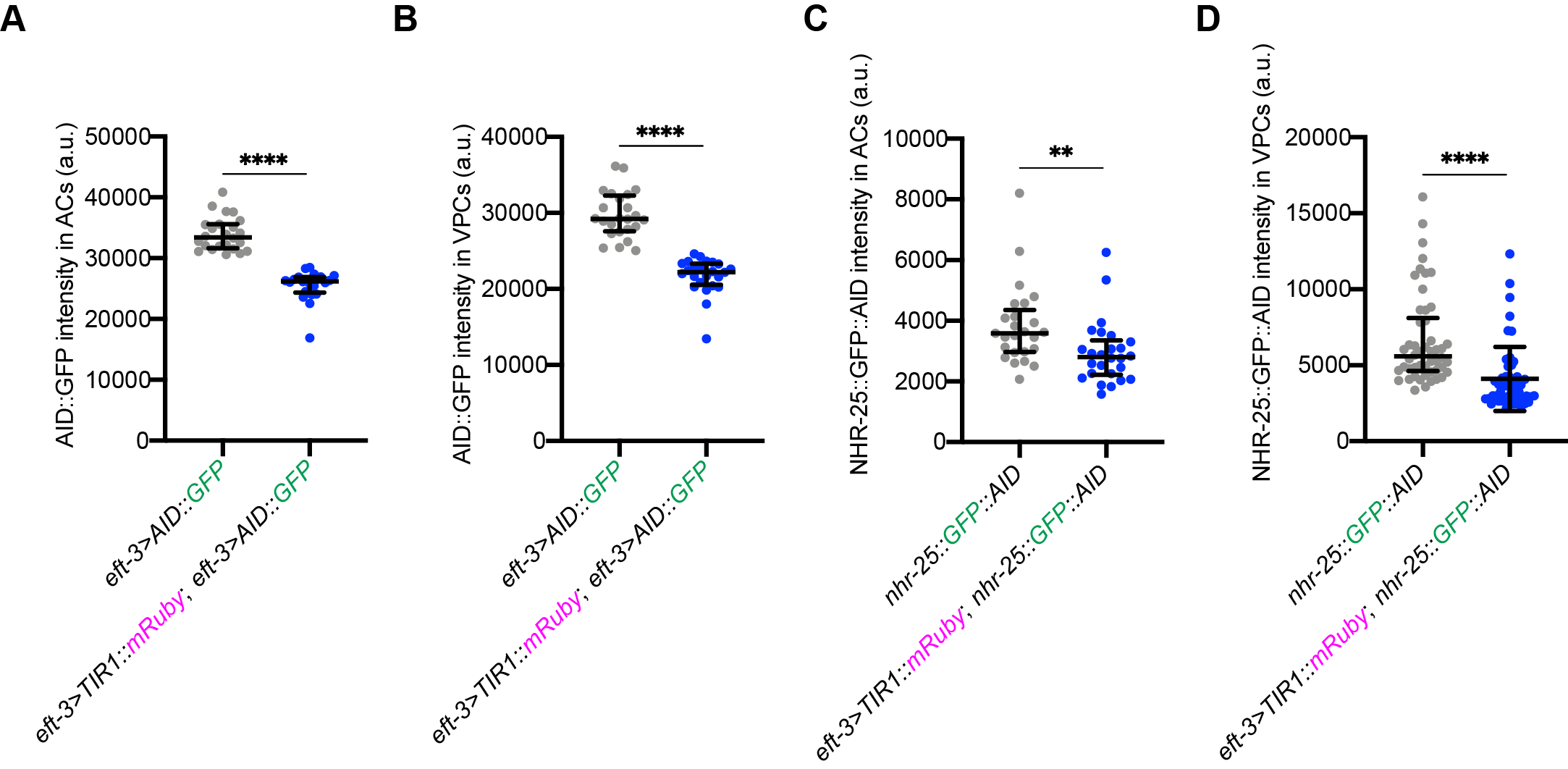
**Figure S1. K-NAA degradation kinetics in the pharynx of L3 larvae and the effect of different auxins on bacterial growth.** (A) Rates of degradation in a *C. elegans*-based microfluidics device were determined by quantifying AID::GFP levels in larval pharynxes following treatment with control, NAA, or K-NAA. Data presented as the mean±SD (*n* ≥ 4 animals examined for each time point). (B) OD600 growth curves for *E. coli* OP50 exposed to different percentages of ethanol (0%, 0.25%, and 1.52%) and different forms of auxin (IAA, NAA, and K-NAA).

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**Figure S2. VPCs are variably sensitive to RNAi.** DIC and corresponding GFP images of ACs (arrowheads) and underlying VPCs (brackets) from mid-L3 stage animals at the P6.p 2-cell stage, showing insensitivity to RNAi in the VPCs (top, right) as compared to sensitivity to RNAi (bottom, right). Synchronized L1 stage animals expressing *eft-*3>AID::GFP and *eft-*3>TIR1::mRuby were fed *cul-1(RNAi)* and treated with NAA at the P6.p 2-cell stage.

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**Figure S3. *cul-1(RNAi)* fails to increase the expression of AID-tagged transgenes in the absence of TIR1.** (A) DIC and corresponding GFP images of ACs (arrowheads) and underlying VPCs (brackets) from mid-L3 stage animals at the P6.p 2-cell stage. Animals expressing *eft-*3>AID::GFP without TIR1::mRuby in the background were treated with *cul-1(RNAi)*. (B) Quantification of AID::GFP in ACs. Data presented as the mean±IQR(*n* = 29 animals examined for each, and *P* *=* 0.1168 by a Mann Whitney U test). ns not significant. (C) DIC and corresponding GFP images of ACs (arrowheads) and underlying VPCs (brackets) from mid-L3 stage animals at the P6.p 2-cell stage. Animals expressing *zmp-1*>GFP without TIR1::mRuby were treated with *cul-1(RNAi)*. (D) Quantification of GFP in ACs. Data presented as the mean±SD(*n* = 20 animals examined for each, and *P* = 0.7682 by a Student’s t-test). ns not significant.



**Figure S4. Auxin-independent degradation of AID::GFP and NHR-25::GFP::AID.** (A, B)Quantification of AID::GFP in ACs (A) and VPCs (B) in a genetic background without and with TIR1::mRuby. Data presented as the median±IQR(*n* ≥ 24 animals examined for each, and *P* values by a Mann Whitney U test). \*\*\*\* *P* < 0.0001. (C, D) Quantification of NHR-25::GFP::AID in ACs (A) and VPCs (B) in a genetic background without and with TIR1::mRuby. Data presented as the median±IQR(*n* ≥ 25 animals examined for each, and *P* = 0.0022 and *P* < 0.0001, respectively by a Mann Whitney U test). \*\* *P* < 0.01, \*\*\*\* *P* < 0.0001.