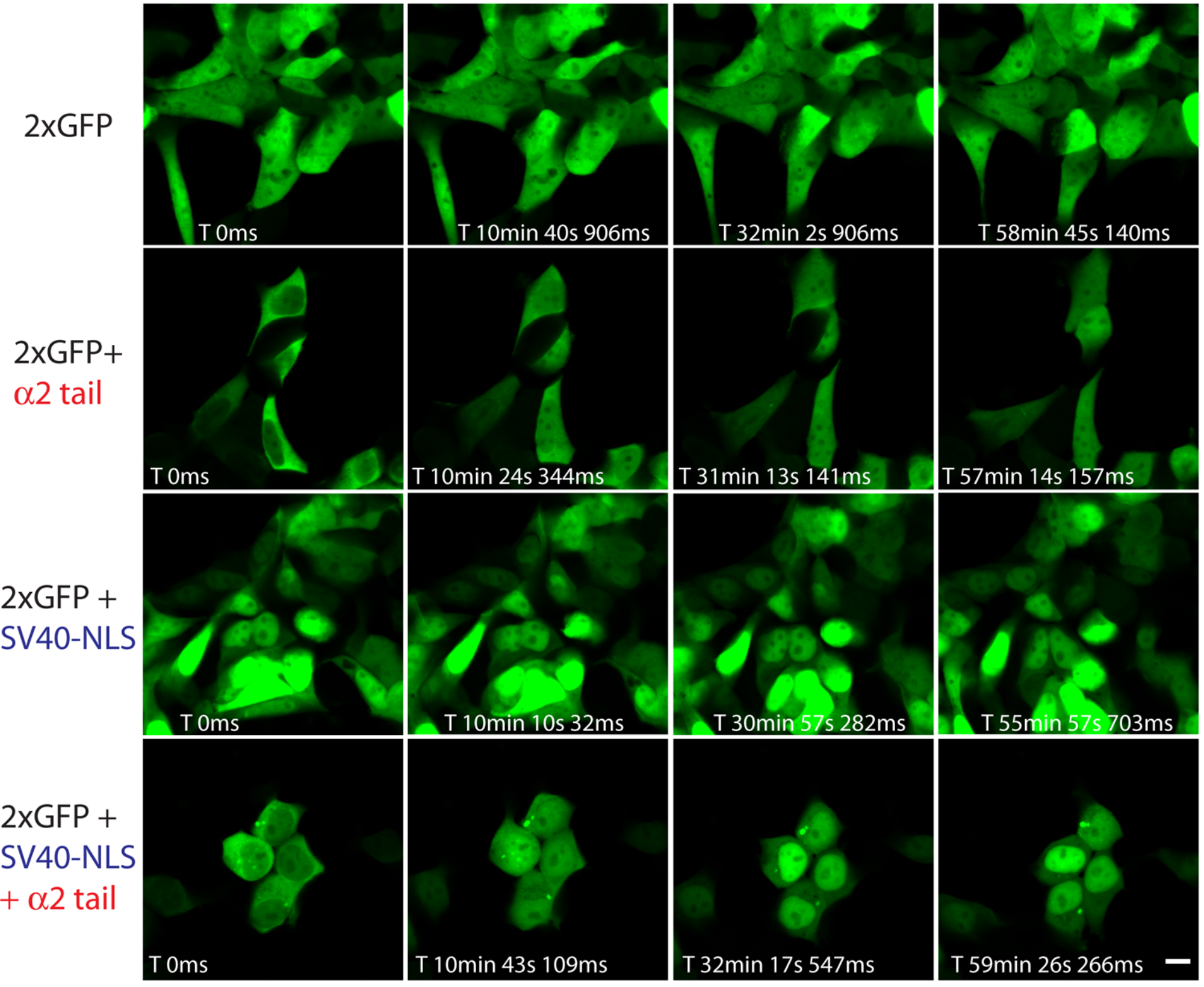
Supplementary Figure 1. Leptomycin B (LMB) treatment, a specific inhibitor of CRM1-mediated nuclear export, induces accumulation of AMPKα carboxy tail-containing proteins in the nucleus in a time-dependent manner. HEK 293 cells transiently transfected with either 2xGFP or 2xGFP fusions containing the AMPKα2 C-terminal tail, the SV40 NLS, or both tail and NLS, imaged before and at indicated time points after treatment with Leptomycin-B (LMB). Bar,10μm.

Supplementary Figure 2. Truncated AMPKα lacking the carboxy-terminal 23 amino acids (AMPKαΔC) associates with β/γ subunits in transfected cells by anti-myc immunoprecipitation. Western blot of anti-myc immunoprecipitations from lysates of HEK 293 cells co-transfected with HA-tagged AMPKβ, FLAG-tagged AMPKγ (all three lanes), and either myc-tagged full-length AMPKα2 (lane 1) or C-terminally truncated AMPKαΔC (lane 3). Cells with no myc-AMPKα were used as a negative control (lane 2).

Supplementary Figure 3. Total phospho-AMPKα levels *in vivo* are highly regulated. Transgenic expression of wild type (mCherry-AMPKα1) but not nuclear relatively unphosphorylated AMPKα1 (mCherry-AMPKα1ΔC) causes decreased endogenous phospho-AMPKα1 (pAMPKα1). Western blot of total lysates from transgenic *Drosophila* adults expressing either Gal4 alone (control), or the respective mCherry-tagged AMPKα1 transgene probed for phospho-AMPKα and Lamin C (as loading control).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α2 tail
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T 31min 13s 141ms
T 57min 14s 157ms
2xGFP +
SV40-NLS
T 0ms
T 10min 10s 32ms
T 30min 57s 282ms
T 55min 57s 703ms
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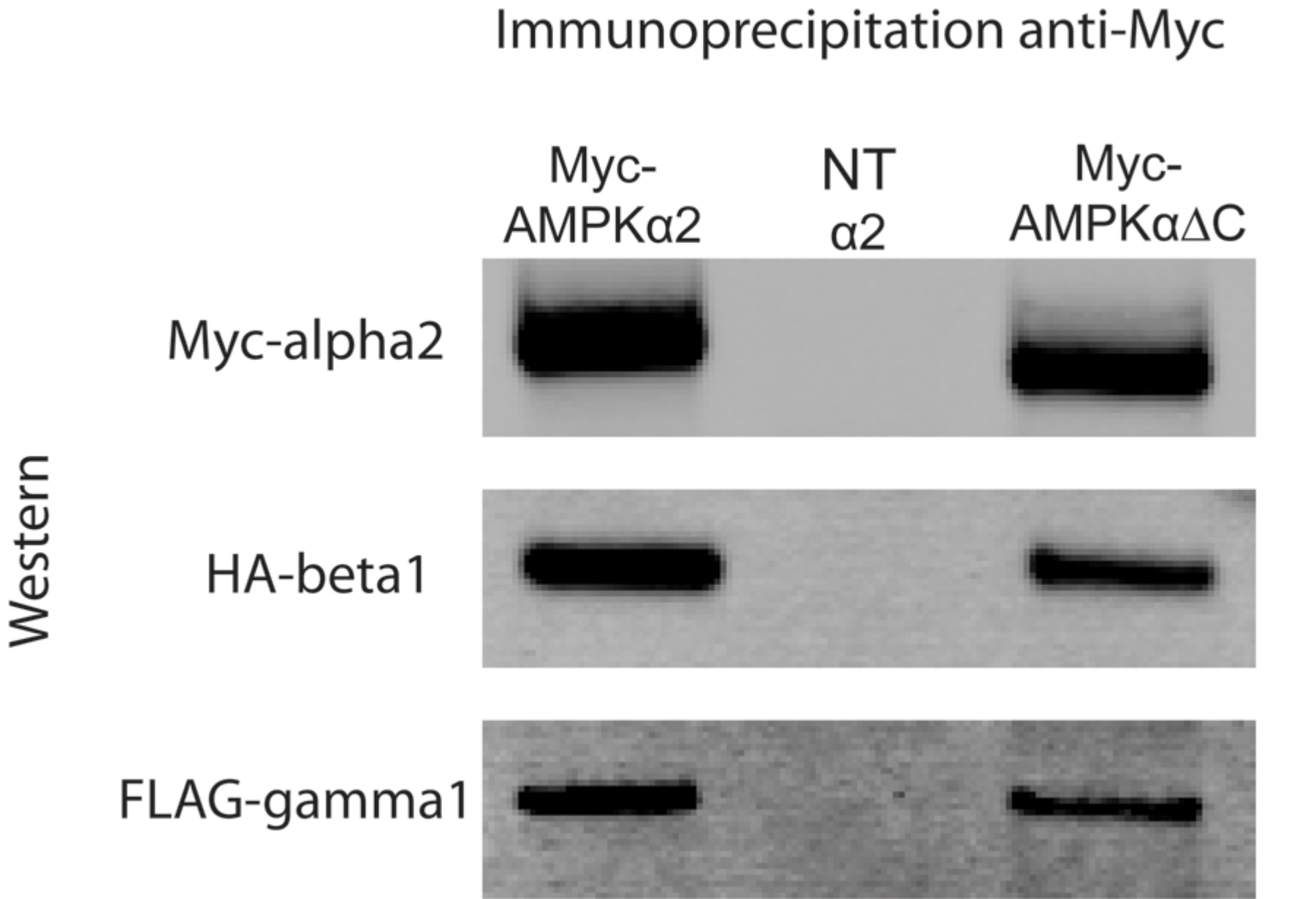
+ LMB---------->|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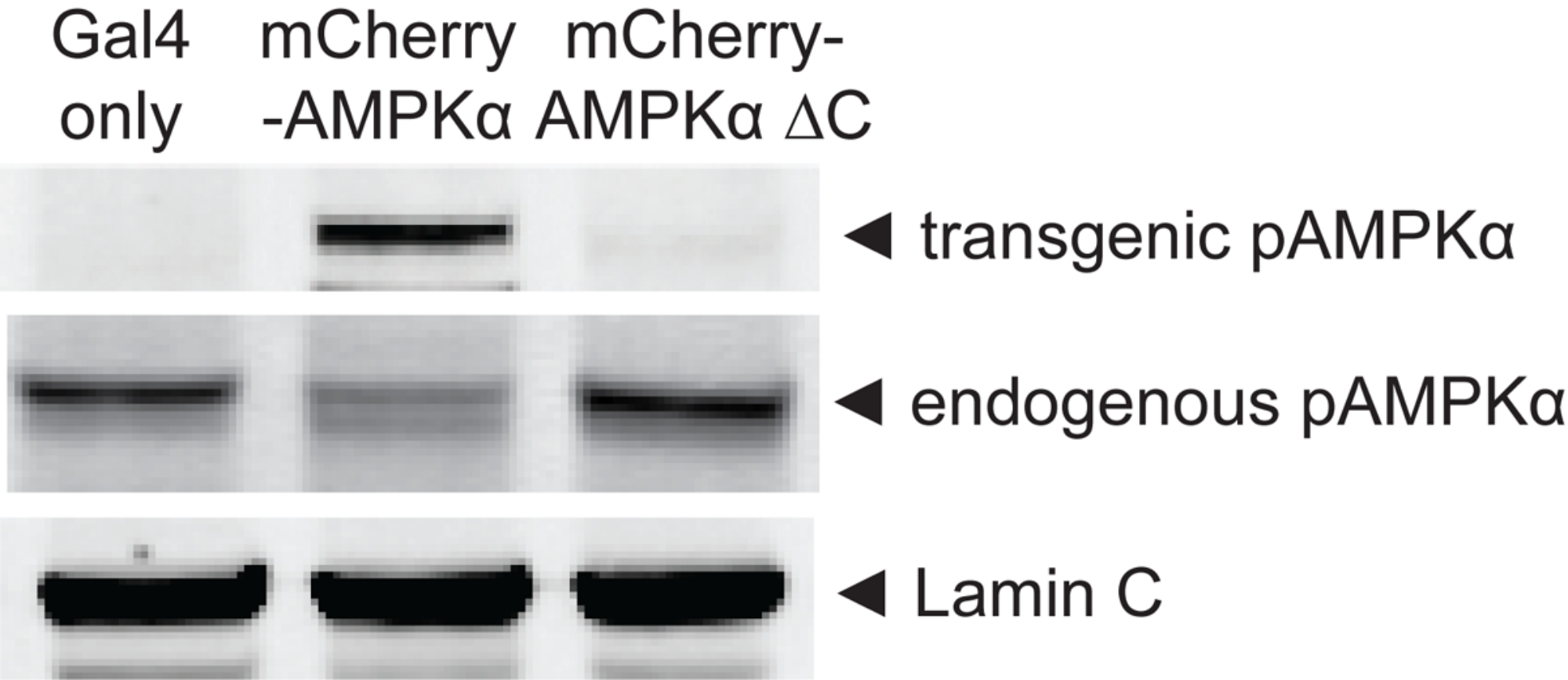
Gal4 only
mCherry -AMPKα
mCherry-AMPKα ΔC
◀ transgenic pAMPKα
◀ endogenous pAMPKα
◀ Lamin C