Electronic Supplementary Material (ESI) for Analyst.

Supplementary Material for

Optical control of nanobody-mediated protein activity modulation with photocleavable fluorescent protein

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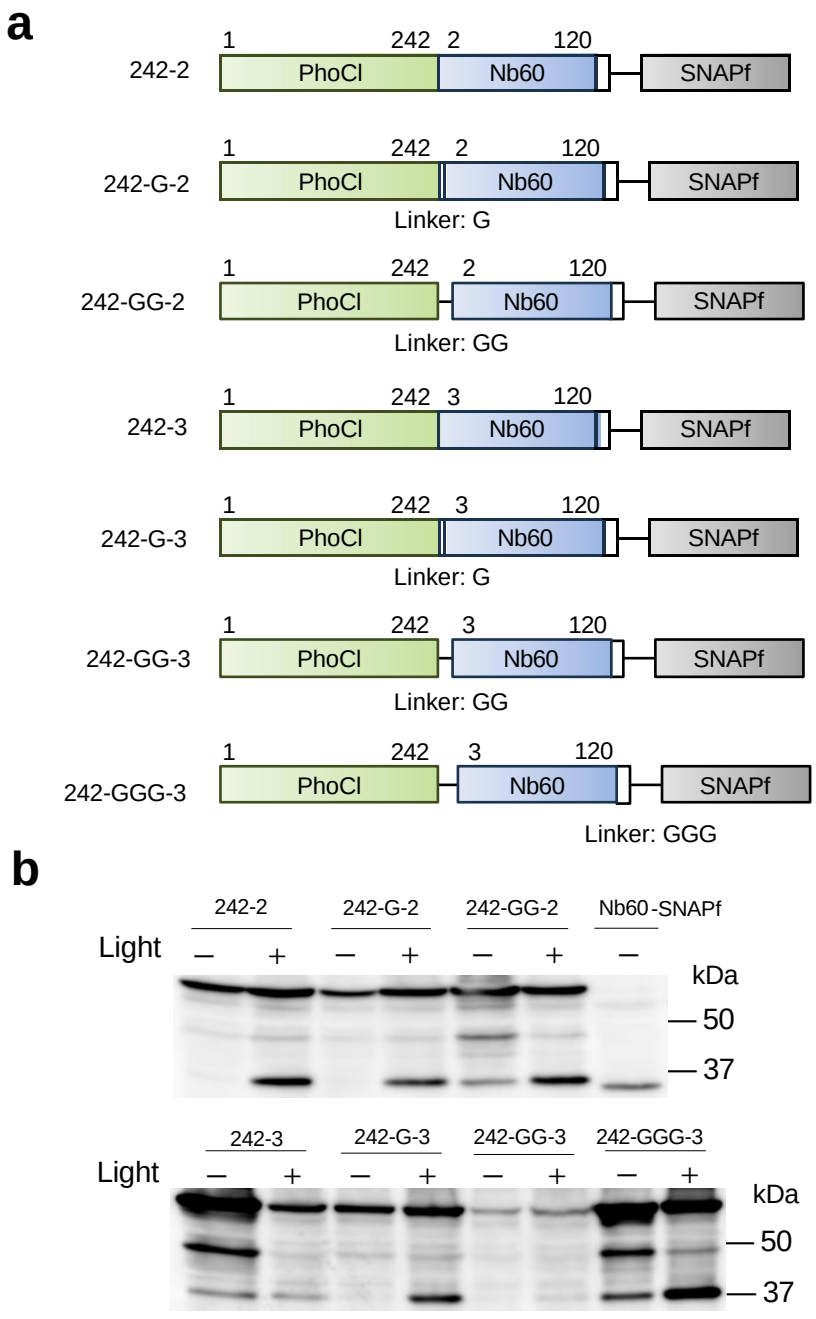
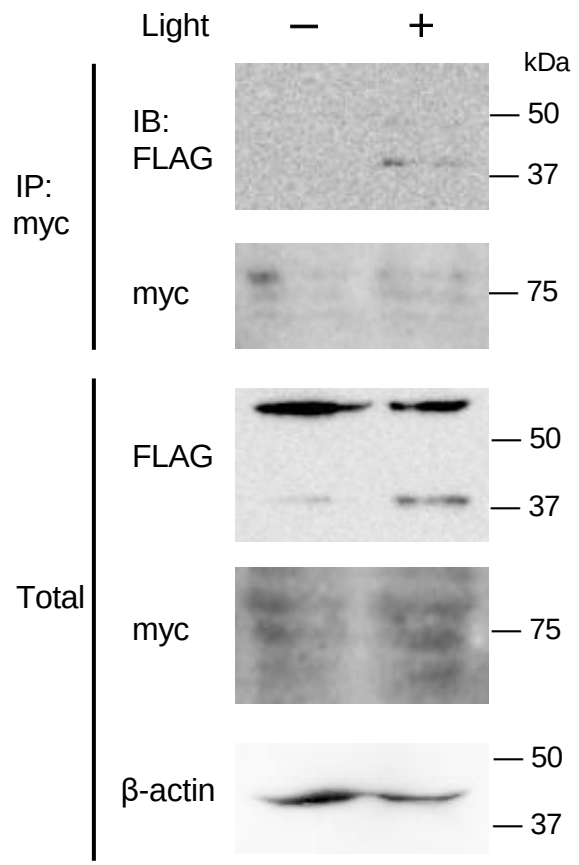
The file includes:



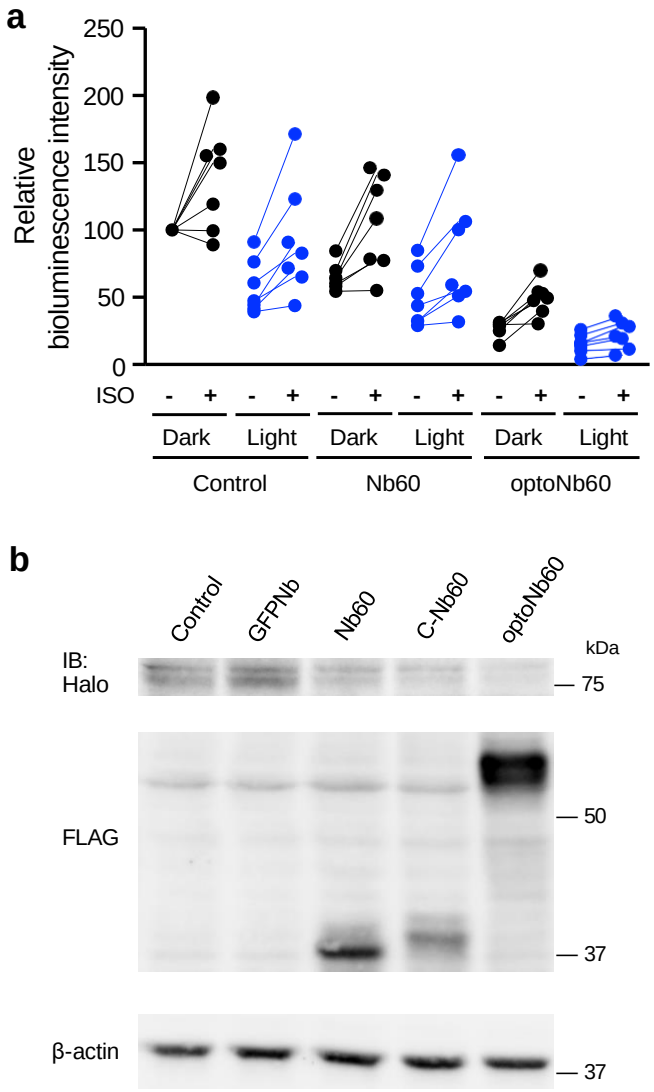
Supplementary Figure 1.

Photocleavage of optoNb60 candidates. (a) Box structures of the candidate molecules. (b) The photocleavage of the candidate molecules. The membrane was immunoblotted with anti-FLAG antibody.



Supplementary Figure 2.

Light-dependent interaction between β2AR and optoNb60. Cells expressing both optoNb60 and Halo-β2AR-myc were immunoprecipitated (IP) with anti-myc antibody. The membrane was immunoblotted (IB) with indicated antibodies.



Supplementary Figure 3.

Investigation of inhibitory effect on ligand-induced intracellular cAMP increase by optoNb60. (a) Ligand-induced intracellular cAMP changes. Control: no expression of any nanobodies. Each Glosensor-22F bioluminescence value was normalized to the value obtained in control cells without ligand or light stimulation in each independent experiment (n = 7). The statistical difference was analyzed by paired t-test. N.S., $P > 0.05$, *$P < 0.05$. (b) Expression levels of Halo-β2AR and Nanobodies. The membrane was immunoblotted (IB) with indicated antibodies. C-Nb60: The C-terminal part of PhoCl (HYGNRVFTKYPR) was added to the N-terminus of optoNb60.