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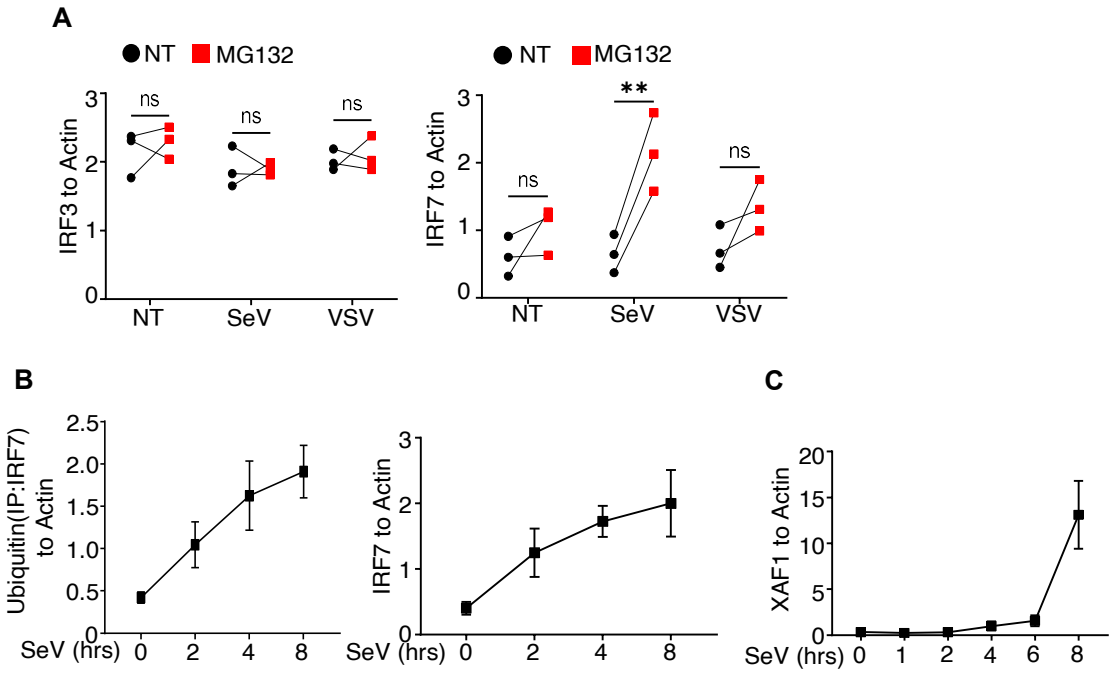


Appendix Fig S1: Quantification and statistical evaluation for biochemical data in Fig 1.

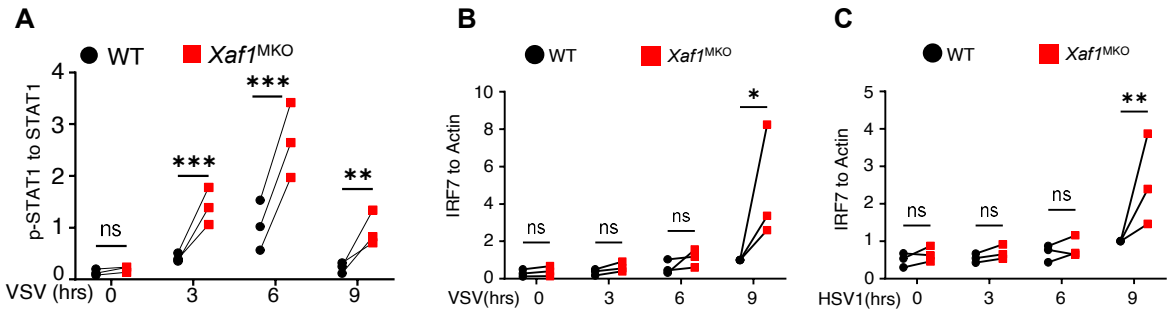
(A) The quantification of IRF3 (left) and IRF7 (right) levels across three experiments. A representative Western blot is shown in Fig 1C.

(B) The quantification of the ubiquitination levels of IRF7 (left) and IRF7 levels (right) across three experiments. A representative Western blot is shown in Fig 1D.

(C) The quantification of XAF1 levels across three experiments. A representative Western blot is shown in Fig 1I.

Data information:

- Data are mean±SEM (n=3 biologically independent repeats).
- Two-way ANOVA Multipul comparisons. ns, no significant difference; *p < 0.05; **p < 0.01; ***p < 0.001.



Appendix Fig S2: Quantification and statistical evaluation for biochemical data in Fig 4.

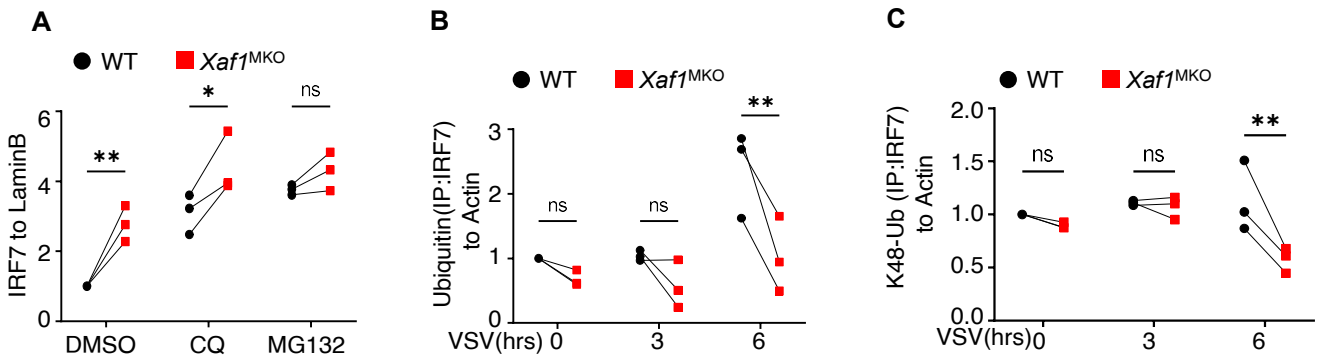
(A) The quantification of p-STAT1 levels across three experiments. A representative Western blot is shown in Fig 4E.

(B) The quantification of IRF7 levels across three experiments. A representative Western blot is shown in Fig 4H.

(C) The quantification of IRF7 levels across three experiments. A representative Western blot is shown in Fig 4I.

Data information:

- Data are representative of 3 biologically independent repeats.
- Two-way ANOVA Multipul comparisons. ns, no significant difference; *p < 0.05; **p < 0.01; ***p < 0.001.



Appendix Fig S3: Quantification and statistical evaluation for biochemical data in Fig 5.

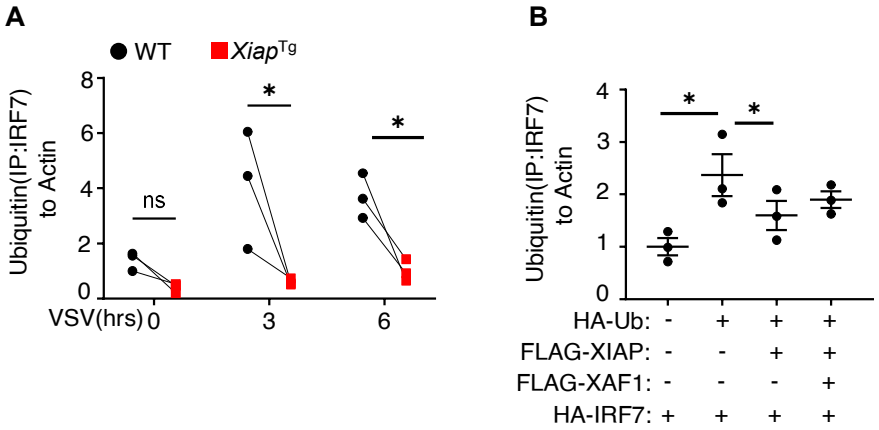
(A) The quantification of IRF7 levels across three experiments. A representative Western blot is shown in Fig 5A.

(B) The quantification of the ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig 5B.

(C) The quantification of the K48-linked ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig 5C.

Data information:

- Data are representative of 3 biologically independent repeats.
- Two-way ANOVA Multipul comparisons. ns, no significant difference; *p < 0.05; **p < 0.01; ***p < 0.001.



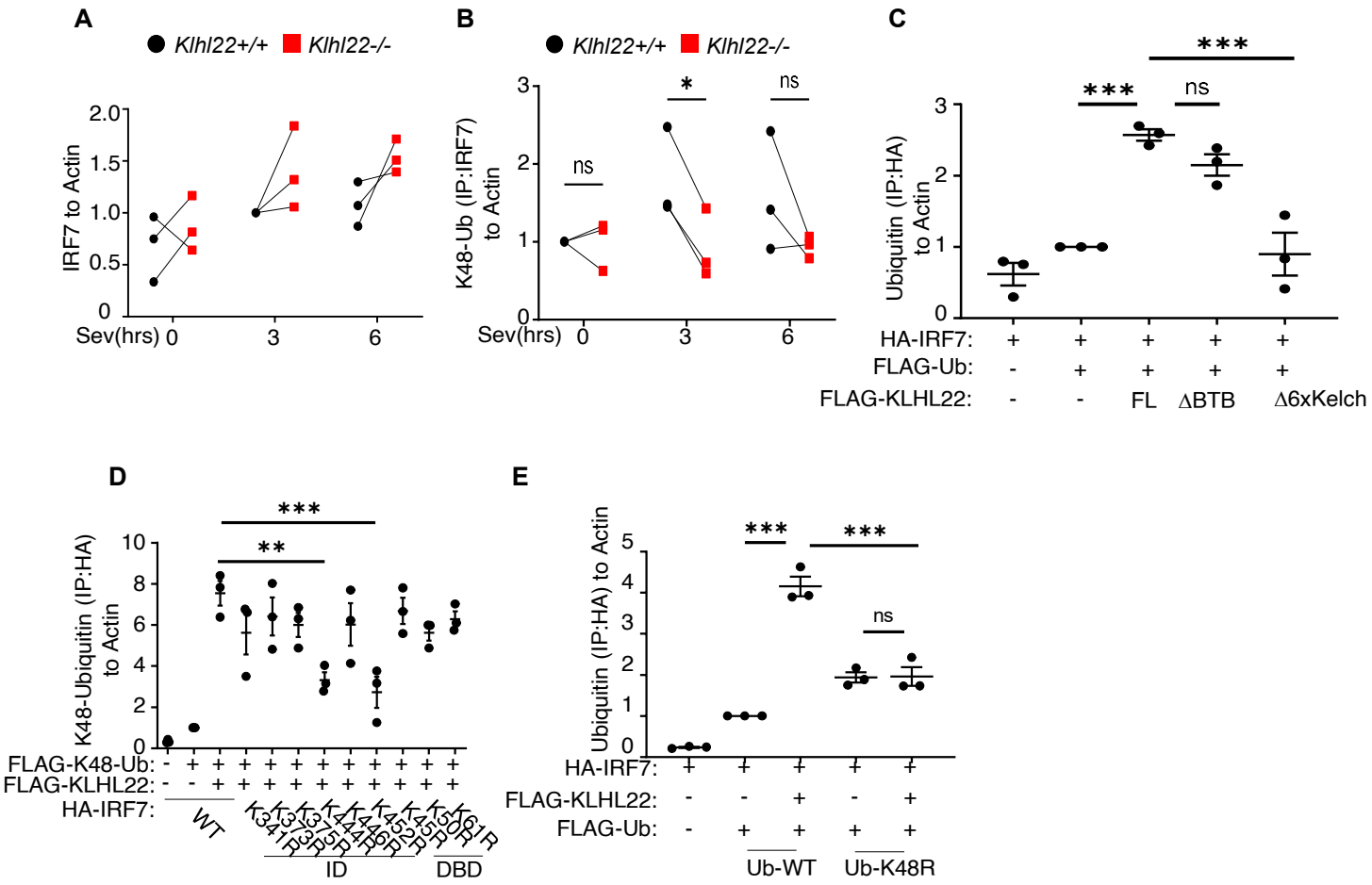
Appendix Fig S4: Quantification and statistical evaluation for biochemical data in Fig 6.

(A) The quantification of the ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig 6H.

(B) The quantification of the ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig 6I.

Data information:

- Data are mean±SEM (n=3 biologically independent repeats).
- Two-way ANOVA Multipul comparisons(A), Oridinary one-way ANOVA Multipul comparisons(B). ns, no significant difference; *p < 0.05; **p < 0.01; ***p < 0.001.



Appendix Fig S5: Quantification and statistical evaluation for biochemical data in Fig 7.

(A) The quantification of IRF7 levels across three experiments. A representative Western blot is shown in Fig 7F.

(B) The quantification of the K48-linked ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig 7G.

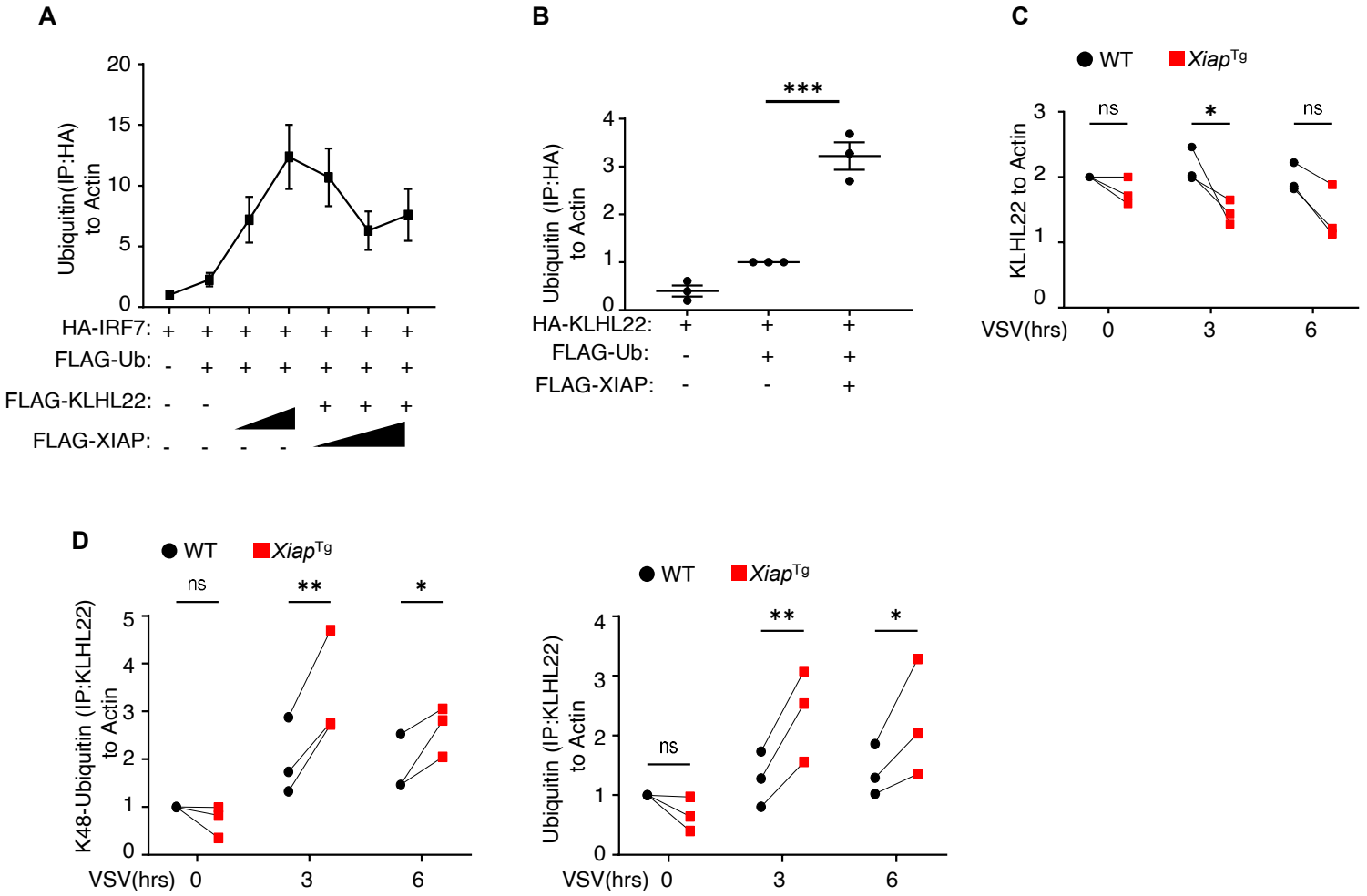
(C) The quantification of the ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig 7H.

(D) The quantification of the ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig 7I.

(E) The quantification of the K48-linked ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig 7J.

Data information:

- Data are mean±SEM (n=3 biologically independent repeats).
- Two-way ANOVA Multipul comparisons(A-B), Oridinary one-way ANOVA Multipul comparisons(C-E). ns, no significant difference; *p < 0.05; **p < 0.01; ***p < 0.001.



Appendix Fig S6: Quantification and statistical evaluation for biochemical data in Fig 8.

(A) The quantification of the ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig 8A.

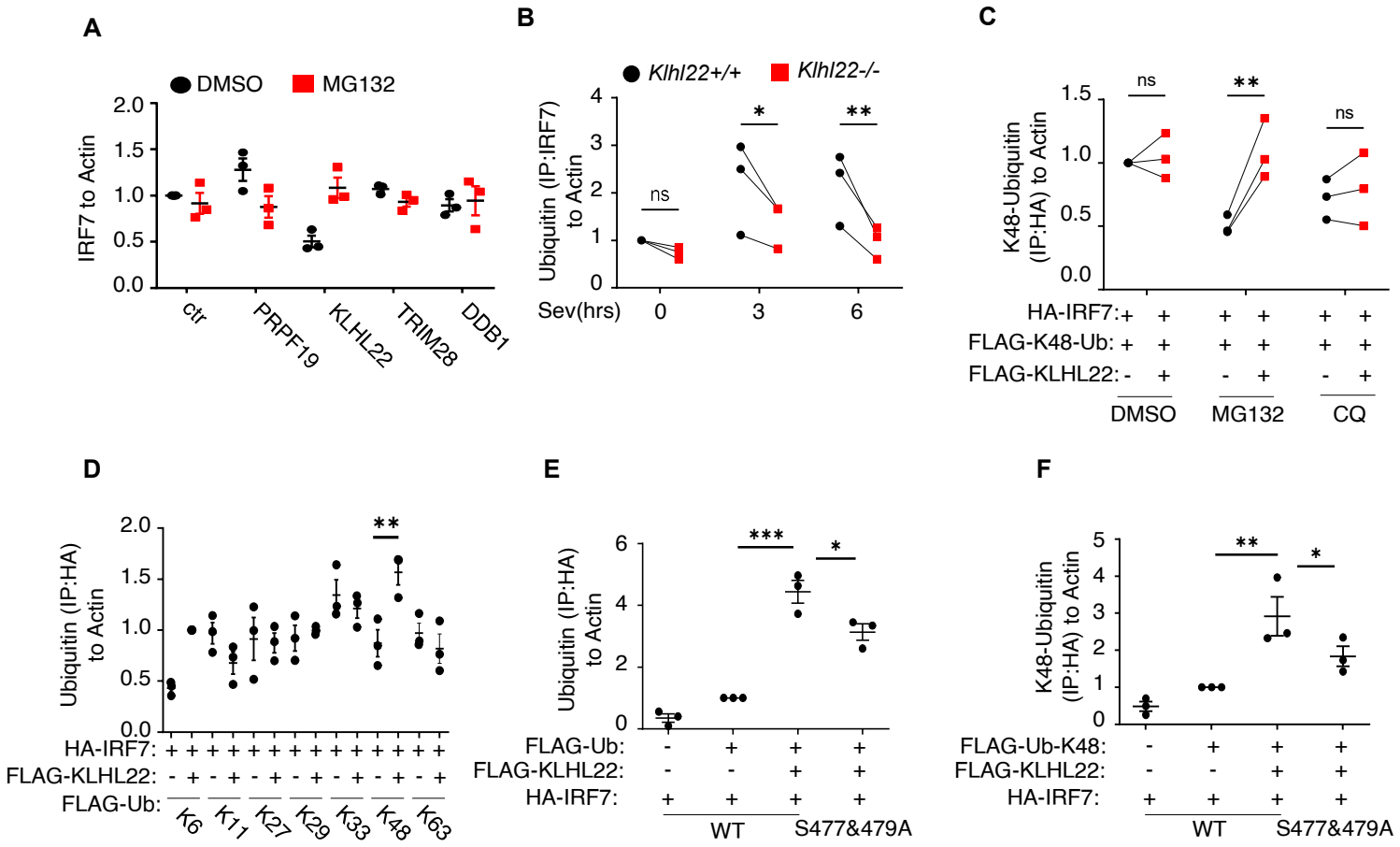
(B) The quantification of the ubiquitination levels of KLHL22 across three experiments. A representative Western blot is shown in Fig 8B.

(C) The quantification of KLHL22 levels across three experiments. A representative Western blot is shown in Fig 8C.

(D) The quantification of the K48-linked ubiquitination levels (left) and the ubiquitination levels (right) of KLHL22 across three experiments. A representative Western blot is shown in Fig 8D.

Data information:

- Data are mean±SEM (n=3 biologically independent repeats).
- Oridinary one-way ANOVA Multipul comparisons(A-B), Two-way ANOVA Multipul comparisons(C-E). ns, no significant difference; *p < 0.05; **p < 0.01; ***p < 0.001.



Appendix Fig S7: Quantification and statistical evaluation for biochemical data in Fig EV4.

(A) The quantification of IRF7 levels across three experiments. A representative Western blot is shown in Fig EV4A.

(B) The quantification of the ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig EV4D.

(C) The quantification of the K48-linked ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig EV4E.

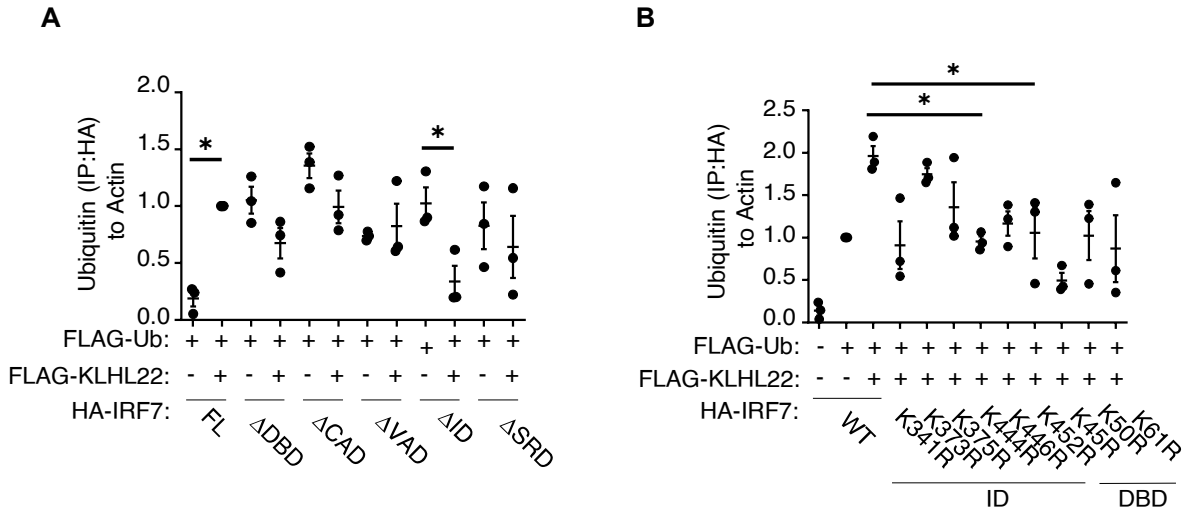
(D) The quantification of the ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig EV4F.

(E) The quantification of the ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig EV4G.

(F) The quantification of the K48-linked ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig EV4H.

Data information:

- Data are mean±SEM (n=3 biologically independent repeats).
- Two-way ANOVA Multipul comparisons(A-C), Oridinary one-way ANOVA Multipul comparisons(D-F). ns, no significant difference; *p < 0.05; **p < 0.01; ***p < 0.001.



Appendix Fig S8: Quantification and statistical evaluation for biochemical data in Fig EV5.

(A) The quantification of the ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig EV5D.

(B) The quantification of the ubiquitination levels of IRF7 across three experiments. A representative Western blot is shown in Fig EV5E.

Data information:

- Data are mean±SEM (n=3 biologically independent repeats).
- Oridinary one-way ANOVA Multipul comparisons(A-B). ns, no significant difference; *p < 0.05; **p < 0.01; ***p < 0.001.