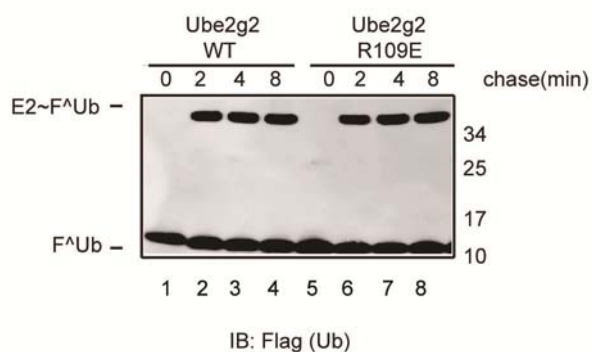


(A) The G2BR domain of gp78 was superimposed on the donor ube2g2 using the G2BR-Ube2g2 complex determined by crystallography (3FSH).

(A) As in A, except that the G2BR-Ube2g2 complex determined by NMR (3H8K) was used.

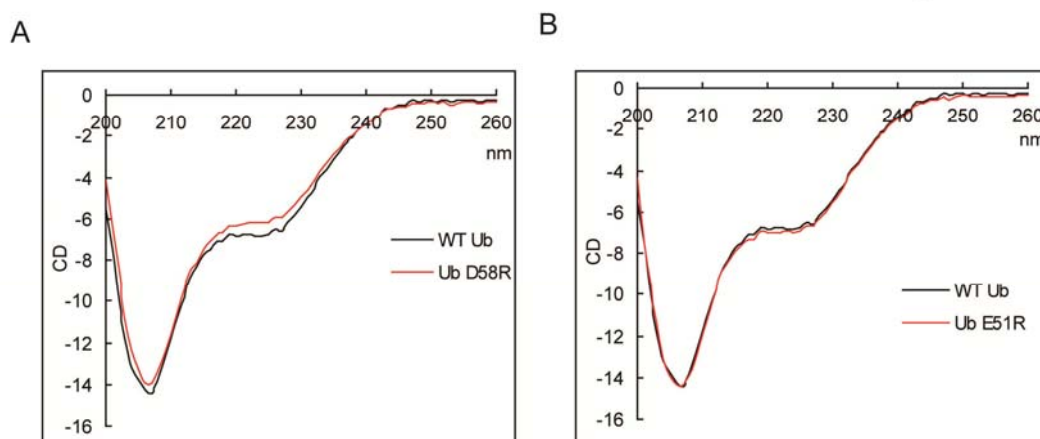
Figure S9



**Figure S9. E2 charging is not affected in the Ube2g2 R109E mutant**

Ubiquitin charging experiment was carried out as follows: E1 (60nM) and Ube2g2 wild type or R109E mutant (300nM) were incubated with FLAG-tagged Ub (10 $\mu$ M) at 37°C for the indicated time points, and the reactions were analyzed by immunoblotting with anti-FLAG antibody under a non-reducing condition.

Figure S10



**Figure S10. The confirmation of ubiquitin D58R and E51R mutants.**

CD spectroscopy analysis of ubiquitin D58R (A) and E51R (B) mutant proteins.