



**SUPPLEMENTAL FIGURE S1.** DDB1-CUL4B<sup>DDB2</sup> E3 ligase efficiently binds mononucleosomes with a 147-bp nucleosome positioning 601 DNA sequence (+UV) and has specificity for nucleosomal histone H2A. **A.** Schematic illustration of a nucleosome without the linker DNA. **B.** Mononucleosomes reconstituted *in vitro* from the mock or UV-irradiated DNA sequence and human recombinant octamers with Myc-H2A, and analyzed on an ethidium bromide-stained agarose gel. **C.** The reconstituted nucleosomes (4 pmole), with undamaged DNA (nucleosomes) or UV-damaged DNA (UV-nucleosomes) were incubated ± DDB1-CUL4B<sup>DDB2</sup> (2 pmole), and the DNA was pulled down with streptavidin-bound Dynabeads (as in Fig 1). The supernatants (20%) (lanes 1 & 3), and pulled-down beads (lanes 2 & 4), were boiled and run on a gradient SDS-PAGE. The separated proteins were probed with the DDB1, DDB2, and H2A antibodies. **D.** The ubiquitination assay was performed with nucleosomal Myc-H2A (nucleosomes or UV-nucleosomes) as a substrate for DDB1-CUL4B<sup>DDB2</sup> E3 ligase. Membrane strips were probed with DDB1, DDB2 and Myc antibodies.