

**Structure-function analyses reveal the mechanism of the ARH3-dependent hydrolysis of  
ADP-ribosylation**

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Running title: The crystal-structure of the ARH3/ADPR complex

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**Supplemental Information:**

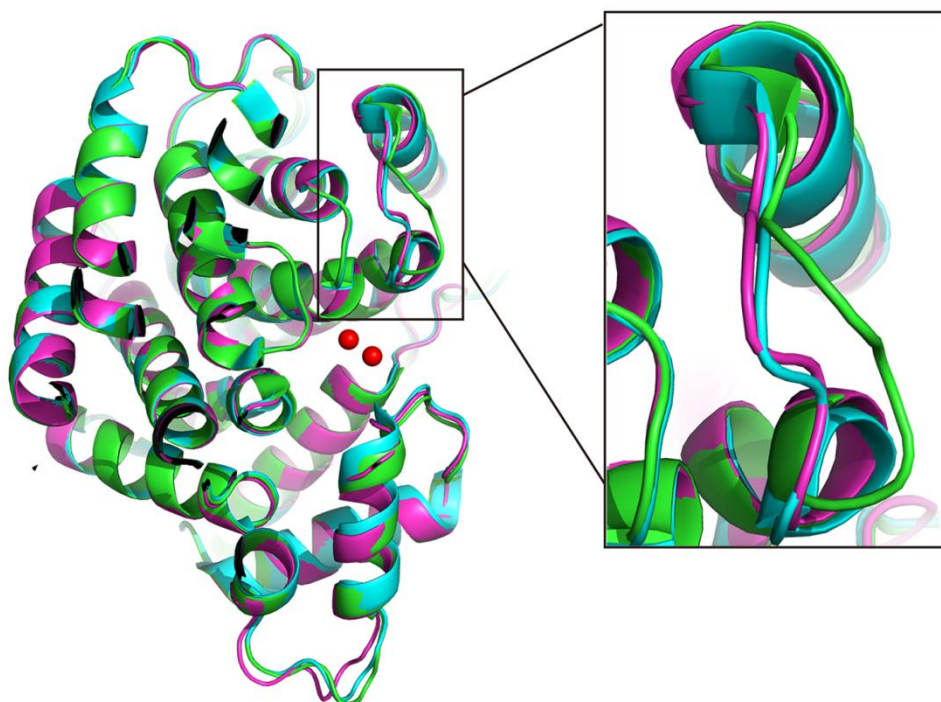


Fig. S1 structural comparison between ARH3-ADPR complex and apo-ARH3 in two different crystal forms. ARH3-ADPR complex is shown in magenta cartoon. The apo-ARH3 orthorhombic crystal form (PDB code: 2FOZ) and the monoclinic crystal form (PDB code: 2FP0) are shown in cyan and green cartoon respectively. The zoomed region shows the major structural variations surrounding the active pocket.

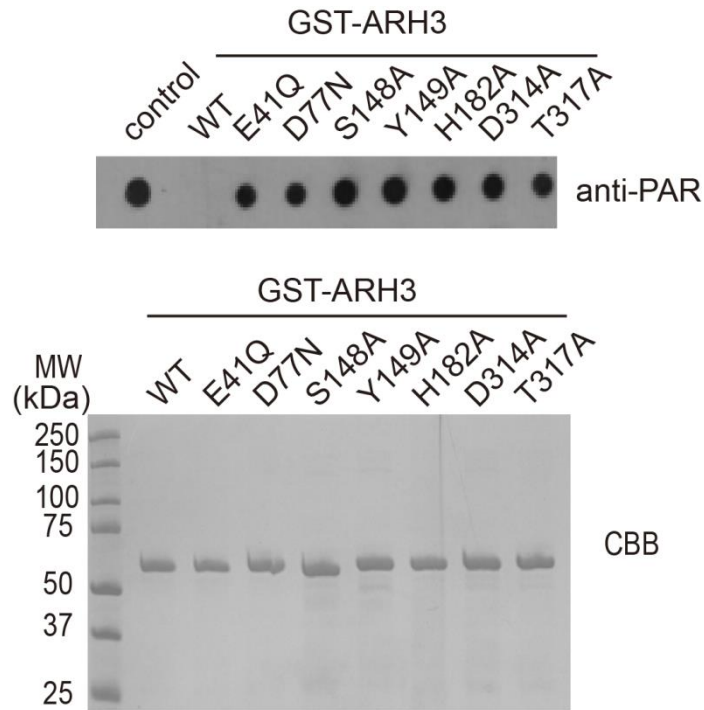


Fig. S2. Key residue mutations of ARH3 abolish the enzymatic activity. The recombinant ARH3 or its mutants were incubated with ADP-ribosylated PARP1. ADPR hydrolyzation was examined by dot blotting with anti-PAR antibodies. The recombinant proteins were examined by coomassie blue staining.