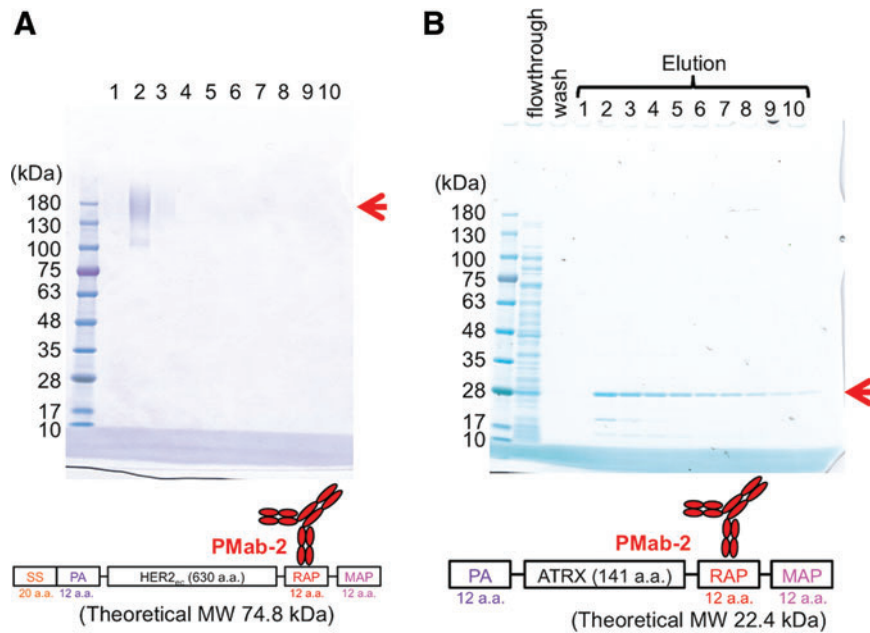


Supplementary Data



SUPPLEMENTARY FIG. S1. Purification of RAP-tagged proteins by the RAP tag system. **(A)** Purification of soluble ectodomain fragment of HER2 (HER2_{ec}). For the purification of HER2_{ec}, LN229/HER2_{ec} was cultivated and 1 L of culture supernatant was harvested. The filtered supernatant was passed through PMAb-2-Sepharose (4 mL bed volume), and the same process was repeated three times. The beads were then washed with 80 mL of TBS (pH 7.5) and eluted with 0.1 mg/mL epitope peptide (GDDMVNPGLEDRIE) in a step-wise manner (4 mL × 10). Five microliters of ten peptide-eluted fractions (lanes 1–10) during the column chromatography were subjected to 5%–20% SDS-PAGE under reducing conditions and stained with CBB. Arrow: HER2_{ec}. **(B)** Purification of ATRXepi from the transformed *Escherichia coli*. The recombinant ATRXepi (PA-ATRXepi-RAP-MAP) was expressed in transformed *E. coli* BL21 (DE3), which was cultured for ~3 hours at 37°C in the presence of 1-mM IPTG. The soluble fraction was mixed with PMAb-2-Sepharose (1 mL bed volume) and incubated at 4°C for 3 hours under gentle agitation. The beads were washed with 20 mL of TBS. The bound protein was eluted with 0.1 mg/mL epitope peptide. The elution was conducted at room temperature in a step-wise manner (1 mL × 10). Five microliters of the soluble fraction after PMAb-2-Sepharose capture (flowthrough), the 5th of 5 washes in TBS (wash), and 10 peptide-eluted fractions (lanes 1–10) during the column chromatography were subjected to 5%–20% SDS-PAGE under reducing conditions and stained with CBB. Arrow: ATRX. ATRX, α -thalassemia/mental-retardation-syndrome-X-linked; CBB, Coomassie brilliant blue; ec, ectodomain; HER2, human epidermal growth factor receptor 2; SDS-PAGE, sodium dodecyl sulfate polyacrylamide gel electrophoresis; TBS, tris-buffered saline.