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2 **FIG S1** Determination of the quaternary structure of AldR by gel filtration chromatography.

3 The purified AldR protein in 20 mM Tris-HCl buffer (pH 8.0) was incubated with 10 mM L-

4 alanine (+Ala) or 10 mM L-cysteine (+Cys) for 1 h and subjected to gel filtration

5 chromatography on Superose 12 10/300 GL (24 ml, GE Healthcare) equilibrated with 20 mM

6 Tris-HCl buffer (pH 8.0) containing the corresponding amino acids. As the control, the

7 purified AldR protein in 20 mM Tris-HCl buffer without the amino acid was included in the  
8 experiment (control). (A) Elution profiles of the purified AldR protein. The elution volumes  
9 are indicated above the peaks representing the eluted AldR proteins. The left peaks are the  
10 aggregated AldR proteins that were eluted at the void volume of the column. The purified  
11 AldR protein was resolved in SDS-PAGE and stained with Coomassie brilliant blue. The  
12 theoretical molecular mass of His<sub>6</sub>-tagged AldR is 19.4 kDa. (B) The plot of log molecular  
13 mass of each protein versus the ratios of elution volume to void volume ( $V_e/V_o$ ) of the  
14 protein. The calculated molecular masses of native AldR in the absence of the amino acid  
15 (control) and presence of L-alanine (+Ala) or L-cysteine (+Cys) are given in the plot.  
16 Abbreviations: ADH, alcohol dehydrogenase; BSA, bovine serum albumin; CA, carbonic  
17 anhydrase.