

**Figure S2. Functional characterization of rare *CYP2D6* coding variants with CYP2D6 probe**

**Vivid™ 7-ethoxymethoxy-3-cyanocoumarin.** Each *CYP2D6* variant was expressed in an isogenic yeast strain and function was characterized with a standard fluorogenic CYP2D6 substrate. Controls (light gray): inactive variant (C443H) and decreased function variant (P34S). Wildtype CYP2D6 protein (medium gray). Rare coding variant strains (dark gray): P8S, D198N, P267L, A449D, and R474Q. Error bars indicate standard deviations from 4 independent replicates.

