

Figure S1. Fluorescence enrichment of the CDrB stained SLC-CRISPRa and sorted out brighter populations. SLC-CRISPRa library was stained by CDrB (0.5 μ M). After 30 min, ~3% brighter populations were sorted out, and repeated processes until ~95% enrichment compared to control library. The gating strategy was described in Materials and methods section.

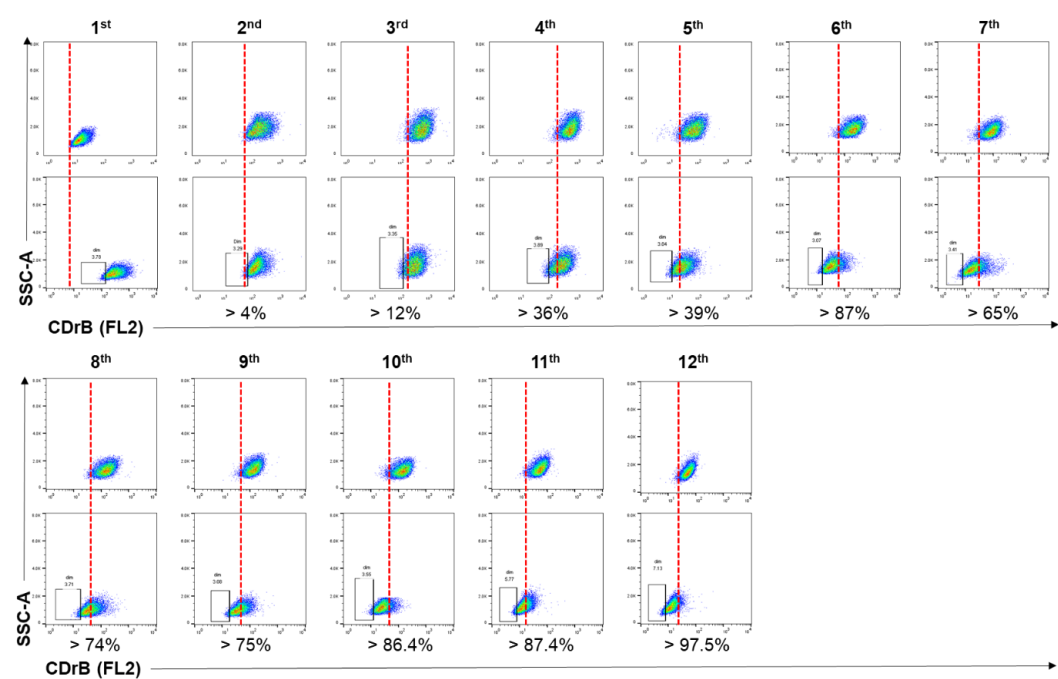


Figure S2. Fluorescence enrichment of the CDrB stained SLC-CRISPRa and sorted out dimmer populations. SLC-CRISPRa library was stained by CDrB (0.5 μ M). After 30 min, ~3% dimmer populations were sorted out, and repeated processes until ~95% enrichment compared to control library. The gating strategy was described in Materials and methods section.

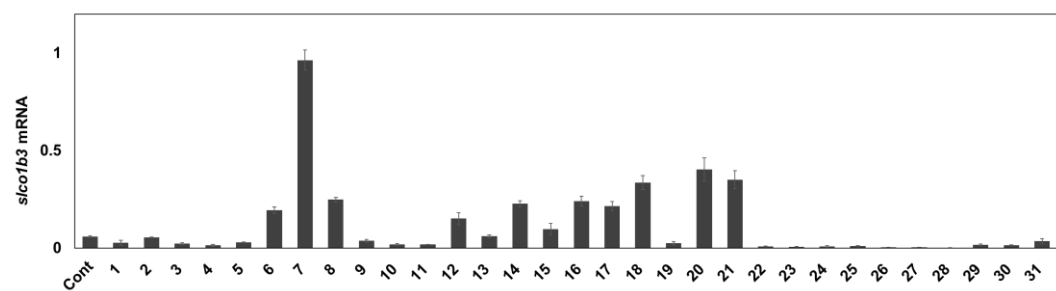


Figure S3. Single cell cloning for *slco1b3*. After enrichment of brighter populations in SLC-CRISPRa pools, single cell cloning was carried out. 31 clones were identified, and 7 clone showed a higher expression level of *slco1b3* compared to others.

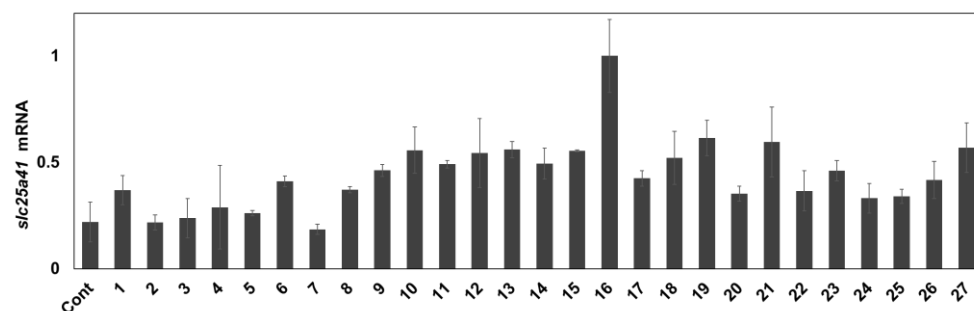


Figure S4. Single cell cloning for *slc25a41*. After enrichment of dimmer populations in SLC-CRISPRa pools, single cell cloning was carried out. 31 clones were identified, and 16 clones showed a higher expression level of *slc25a41* compared to others.

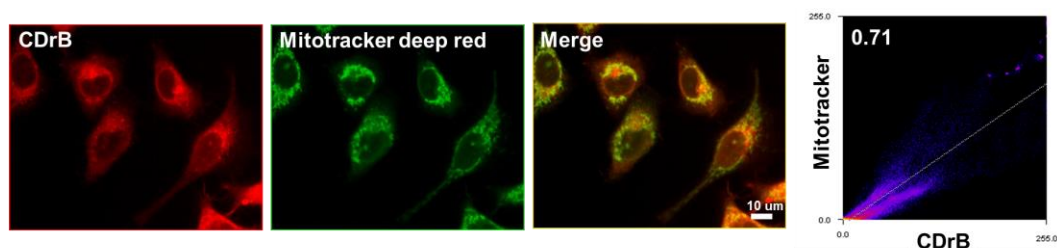


Figure S5. Localization of CDrB. The cells were stained with Mitotracker deep red (100 nM) after staining CDrB (1 µM). The correlation graph was displayed with Pearson's correlation coefficient (0.71)

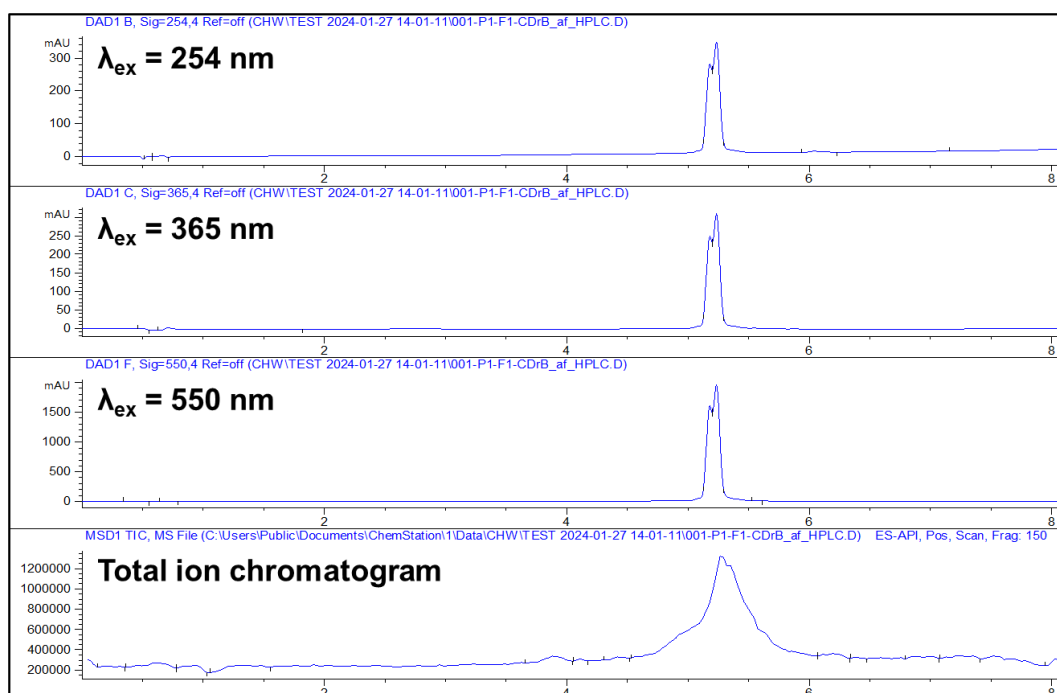


Figure S6. LC and mass chromatogram of CDrB.

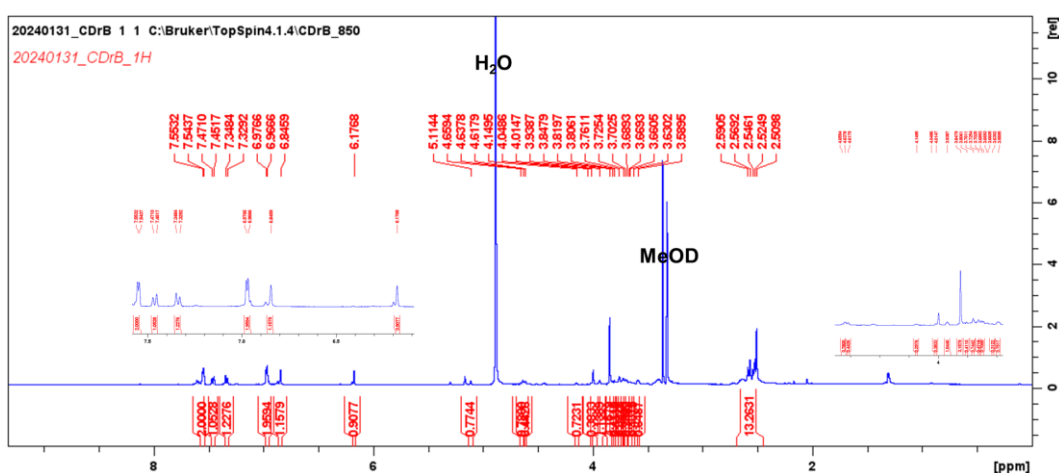


Figure S7. ^1H NMR of CDrB (850 MHz, MeOH- d_4).

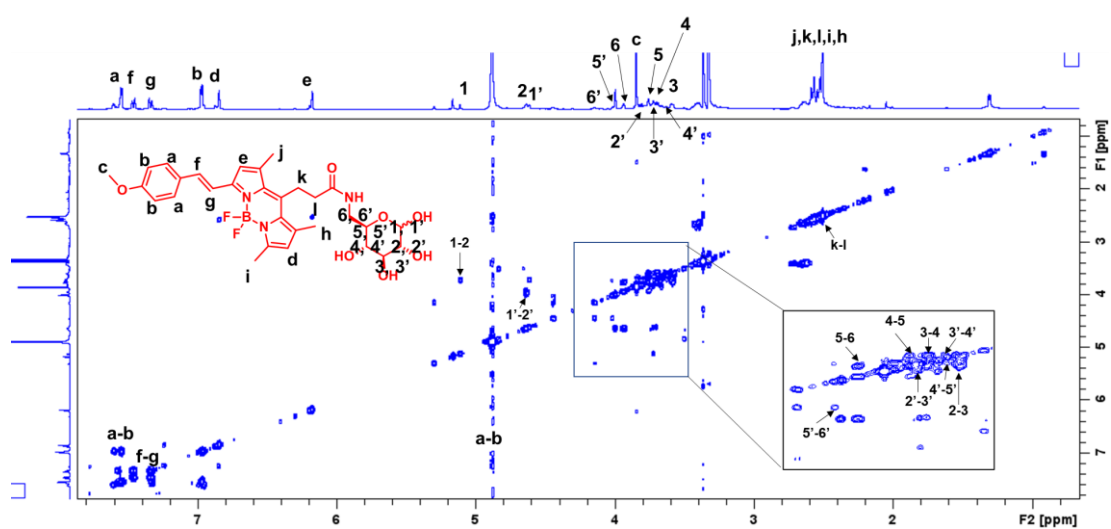


Figure S8. ^1H - ^1H COSY of CDrB (850 MHz, MeOH- d_4).

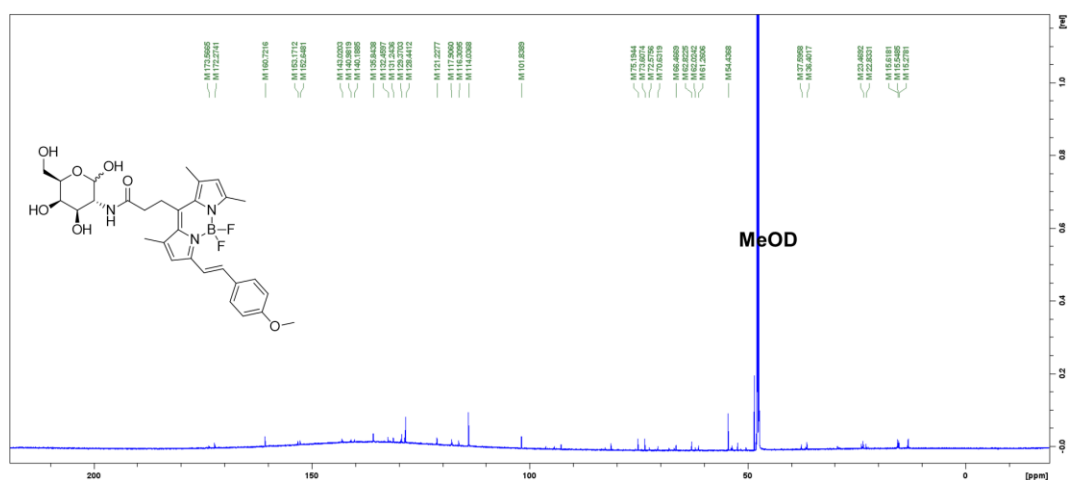
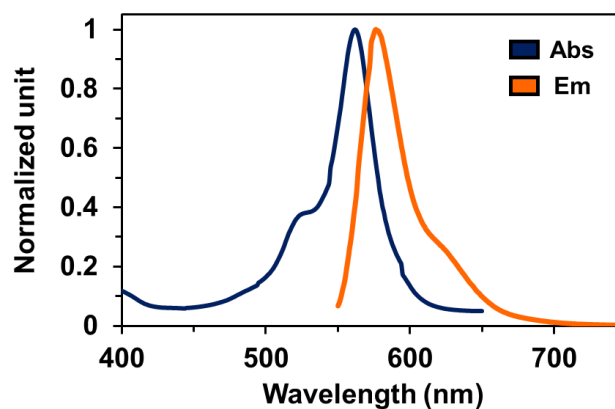


Figure S9. ^{13}C NMR spectrum of CDrB (214 MHz, $\text{MeOH-}d_4$).



λ_{abs}	λ_{em}	$\epsilon \text{ (cm}^{-1}\text{M}^{-1}\text{)}$	Φ_{fl}
562 nm	576 nm	73,080	0.28

Figure S10. Absorbance and fluorescence spectra of CDrB in MeOH. The displayed graph showed the absorbance and emission spectrum of CDrB. The table contained the information of extinction coefficient and quantum yield of CDrB, which were measured in methanol. The emission spectrum was measured by $\lambda_{\text{ex}} = 550 \text{ nm}$.