**Table S3.** ADMETox predicted properties from the SaDHQD potential inhibitors.

| Parameter | **Compound 1** | **Compound 2** | **Compound 3** | **Compound 4** |
|---|---|---|---|---|
| Molecular weight | 169.10 g/mol | 164.13 g/mol | 243.25 g/mol | 238.20 g/mol |
| Fraction Csp3 | 0.00 | 0.50 | 0.33 | 0.38 |
| Num rotatable bonds | 0 | 0 | 2 | 4 |
| Num H-bond acceptors | 6 | 6 | 7 | 5 |
| Num. H-bond donors | 3 | 0 | 1 | 4 |
| Molar refractivity | 50.27 | 34.25 | 52.56 | 60.10 |
| TPSA | 107.67 Å² | 87.20 Å² | 129.96 Å² | 128.87 Å² |
| | | **Lipophilicity** | | |
| Consensus Log $P_{o/w}$ | -0.79 | -0.84 | -1.16 | -1.88 |
| | | **Water solubility** | | |
| Log S (ESOL) | -0.86 | -0.56 | -1.24 | -0.25 |
| Class | Very soluble | Soluble | Very soluble | Very soluble |
| | | **Pharmacokinetics** | | |
| GI absorption | Low | High | High | Low |
| Log $K_p$ (Skin permeation) | -7.36 cm/s | -8.33 cm/s | -8.27 cm/s | -8.90 cm/s |
| | | **Druglikeness** | | |
| Lipinski | Yes; 0 violation | Yes; 0 violation | Yes; 0 violation | Yes; 0 violation |
| Ghose | No; 2 violations: WLOGP<-0.4, #atoms<20 | No; 3 violations: WLOGP<-0.4, MR<40, #atoms<20 | No; 1 violation: WLOGP<-0.4 | No; 1 violation: WLOGP<-0.4 |
| Veber | Yes | Yes | Yes | Yes |
| Egan | Yes | Yes | Yes | Yes |
| Muegge | No; 2 violations: MW<200, #C<5 | No; 2 violations: MW<200, #C<5 | Yes | Yes |
| Bioavailability score | 0.55 | 0.55 | 0.55 | 0.55 |
| | | **Medicinal chemistry** | | |
| PAINS | 0 alert | 0 alert | 0 alert | 0 alert |
| Brenk | 3 alerts: imine_1, oxime_1, oxygen-nitrogen_single_bond | 0 alert | 0 alert | 1 alert: beta_keto_anhydride |
| Leadlikeness | No; 1 violation: MW<250 | No; 1 violation: MW<250 | No; 1 violation: MW<250 | No; 1 violation: MW<250 |

| | | | | |
|---|---|---|---|---|
| Synthetic accesibility | 3.60 | 2.42 | 2.78 | 2.61 |
| BBB | 0.31472 | 0.0823177 | 0.0587745 | 0.0524834 |
| *in vitro* Caco2 cell permeability | 3.94346 | 0.73613 | 1.28144 | 6.54818 |
| *in vitro* CYP 2C19 inhibition | Inhibitor | Inhibitor | Non | Inhibitor |
| *in vitro* CYP 2C9 inhibition | Non | Non | Non | Non |
| *in vitro* CYP 2D6 inhibition | Non | Non | Non | Non |
| *in vitro* CYP 2D6 substrate | Non | Non | Non | Non |
| *in vitro* CYP 3A4 inhibition | Non | Non | Non | Inhibitor |
| *in vitro* CYP 3A4 substrate | Weakly | Non | Substrate | Non |
| HIA | 40.239613 | 70.251543 | 70.866318 | 27.244666 |
| MDCK | 1.42037 | 0.720713 | 0.602251 | 0.597793 |
| Pgp inhibition | Non | Non | Non | Non |
| Plasma Protein Binding | 2.683644 | 14.374404 | 60.179920 | 5.910365 |

*All values were calculated with SwissADME web tool and PreADMET server. Molecular weight (Default Range 50-500 Da), Fraction Csp3: Ratio of $sp^3$ hybridized carbons over the total carbon count of the molecule (at least 0.25), number of rotatable bonds (0-5), number of hydrogen acceptors (0-10), number of hydrogen donors (0-5), Molar refractivity (40-130), TPSA: topological polar surface area (20-130), ESOL (calculates Log S property) values should not exceed 6, octanol/water partition coefficient (consensus LOGP: -2 to 10), Lipinski, Ghose, Veber, Egan and Muegge (Filters that determine druglikeness of a compound: no violations are considered ideal), Bioavailability score: it predicts the probability of a compound to have at least 10% oral bioavailability in rat, Number of Brenk alert and PAINS alert ( number of alerts for undesirable substructures/substructures, a result with No alerts is ideal), Leadlikeness: Molecules are evaluated according to three parameters: ≤250 MW ≤350, XLOGP ≤3.5 and number of rotatable bonds ≤7, there should be no violations; Synthetic accesibility: refers to easyness of chemical synthesis from 1(very easy) to 10 (very difficult). BBB: *in vivo* blood-brain barrier penetration (C.brain/C.blood), Buffer solubility: Calculated water solubility value in buffer system by SK atomic types (mg/L), Caco2: *in vitro* Caco-2 cell permeability (nm/sec), values > 500 nm $sec^{-1}$ indicate a good permeability and values < 25 nm $sec^{-1}$ indicate a low permeability, CYP 2C19 inhibition: *in vitro* Cytochrome P450 2C19 inhibition, CYP 2C9 inhibition: *in vitro* Cytochrome P450 2C9 inhibition, CYP 2D6 inhibition: *in vitro* Cytochrome P450 2D6 inhibition , CYP 2D6 substrate: *in vitro* Cytochrome P450 2D6 substrate , CYP 3A4 inhibition: *in vitro* Cytochrome P450 3A4 inhibition, CYP 3A4 substrate: *in vitro* Cytochrome P450 3A4 substrate , HIA: Human intestinal absorption (HIA, %), a high intestinal abortion percentage is desirable indicated by values closest to 100%, MDCK: *in vitro* MDCK (Mandin Darby Canine Kidney) cell permeability (nm/sec), values > 500 nm $sec^{-1}$ indicate a good permeability and values < 25 nm $sec^{-1}$ indicate a low permeability, Pgp inhibition: *in vitro* P-glycoprotein inhibition, Plasma Protein Binding: *in vitro* plasma protein binding (%), a value of >90% is desirable, Skin Permeability: *in vitro* skin permeability-transdermal delivery (logKp, cm/hour).