



FIGURE 14.3 The binding site and structure of biogenic amine transporter substrates and inhibitors. Top panel: Crystal structure of dDAT solved in complex with dopamine, cocaine, and nortriptyline, respectively, with focus on the binding pocket hosting both substrates and inhibitors for the protein. The residues constituting the binding pocket are shown as spheres. They are colored according to their subsite position: Subsite A (red) consists of residues Phe43 and Asp46 from TM1 and Gly322 and Ser421 from TM6 and 8, respectively. Subsite B (blue) consists of Ala117, Val120, Asp121, and Tyr124 from TM3, Phe325 in TM6 and Gly425 from TM8. Subsite C (green) is Phe319 from TM6 and Asp475 and Ala479 from TM10. Middle and bottom panels: Chemical structure of most common substrates and inhibitors, respectively, for the biogenic amine transporters. SSRIs, selective serotonin reuptake inhibitors; SNRIs, serotonin norepinephrine reuptake inhibitors; MPP⁺, (1-methyl-4-phenylpyridinium); MDMA, 3,4-methylenedioxy-methamphetamine; MDPV, methylenedioxypropylvalerone.