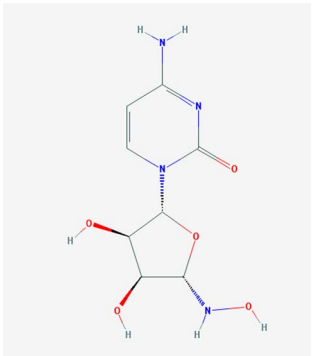
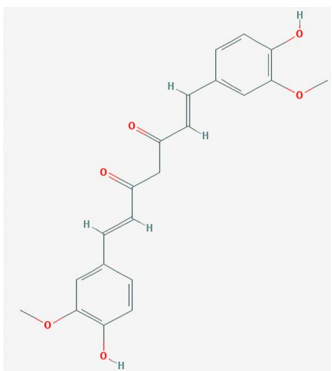
Table 5.5 Pharmacological profile and pharmacogenetics of selected epigenetic drugs.[a]

Drug	Properties	Pharmacogenetics
	**Name: 5-Azacytidine**, Azacitidine, Azacytidine, Ladakamycin, Vidaza, Mylosar, Azacitidinum, 5-AZAC **IUPAC Name:** 4-Amino-1-[(2R,3R,4S,5R)-3,4-dihydroxy-5-(hydroxymethyl)oxolan-2-yl]-1,3,5-triazin-2-one **Molecular Formula:** $C_8H_{12}N_4O_5$ **Molecular Weight:** 244.20468 **Category:** Pyrimidine nucleoside cytidine analog **Mechanism:** DNA methyltransferase inhibitor, Telomerase inhibitor **-Target:** DNA (cytosine-5)-methyltransferase 1 (DNMT1) **-Interactions:** Cytidine deaminase **Effect:** Antineoplastic, Antimetabolite. Methylates CpG residues. Methylates hemimethylated DNA. Mediates transcriptional repression by direct binding to HDAC2	**Pathogenic genes:** *ALDH3A1, CDKN2A, MGMT, PLA2R1, RRM1, TNFRSF1B* **Mechanistic genes:** *ALDH1A1, DAPK1, DNMT1, DPYD, CDKN2A, MGMT, PLCB1* **Metabolic genes:** **Substrate:** *CDA, DCK, SLC28A1, SLC29A1, RRM1, RRM2, UCK1, UCK2* **Inhibitor:** *CYP1A2 (weak), CYP2E1 (weak), DNMT1* **Inducer:** *SULT1C2* **Transporter genes:** *SLC5A5, SLC28A1, SLC29A1* **Pleiotropic genes:** *BLK*
	**Name: Curcumin**, Diferuloylmethane, Natural yellow 3, Turmeric yellow, Turmeric, Kacha haldi, Gelbwurz, Curcuma, Haldar, Souchet **IUPAC Name:** (1E,6E)-1,7-bis(4-hydroxy-3-methoxyphenyl)hepta-1,6-diene-3,5-dione **Molecular Formula:** $C_{21}H_{20}O_6$ **Molecular Weight:** 368.3799 **Category:** Natural product (*Curcuma longa)* **Mechanism:** Histone acetyltransferase (HAT) inhibitor **Effect:** Non-steroidal anti-inflammatory agent; Antineoplastic; Antioxidant; Cognitive enhancer; Coloring agent; Enzyme inhibitor	**Pathogenic genes:** *BACE1, CCND1, CDH1, GSK3B, IL1A, IL6, JUN, MSR1, PSEN1, PTGS2, SNCA, SREBF1, TNF* **Mechanistic genes:** *AKT1, PRKAs, BACE1, CCND1, CDH1, CDKs, CRM1, CTNNB1, EGF, GSK3B, HDACs, HIF1A, IL1A, IL6, JUN, MMPs, MSR1, NFKB1, NOS2, PDGFRs, PSEN1, PTGS2, SNCA, SOCS1, SOCS3, SREBF1, STAT3, TNF, VEGFA* **Metabolic genes:** **Inhibitor:** *CYP2C8, CYP2C9, EP300* **Inducer:** *CYP2C8, CYP2C9, CYP2D6, CYP3A4* **Transporter genes:** *ABCA1, SNCA* **Pleiotropic genes:** *CTNNB1, MSR1*