Supplementary Materials

Figure 1: Protein structure of *AKR1C3–AKR1C4*.

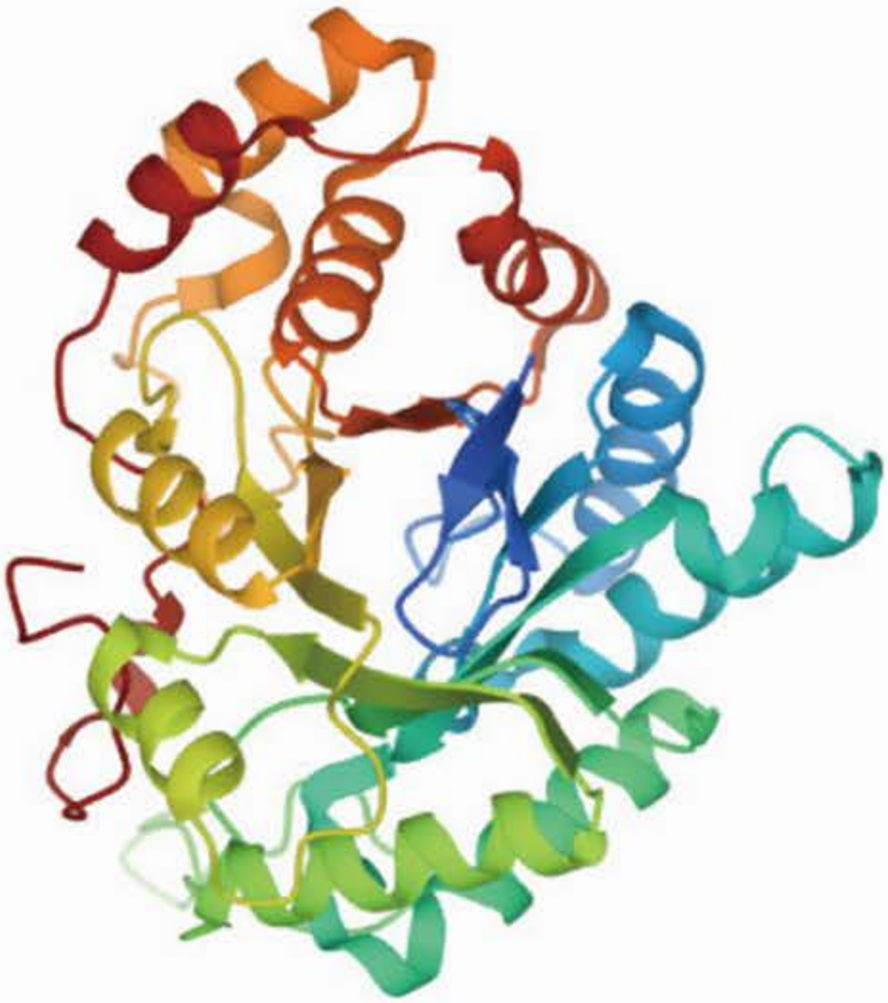
AKR1C3: C3 subtype of aldosterone reductase family 1

Table 1: Roles and mechanism of *AKR1C3* in human tumors.

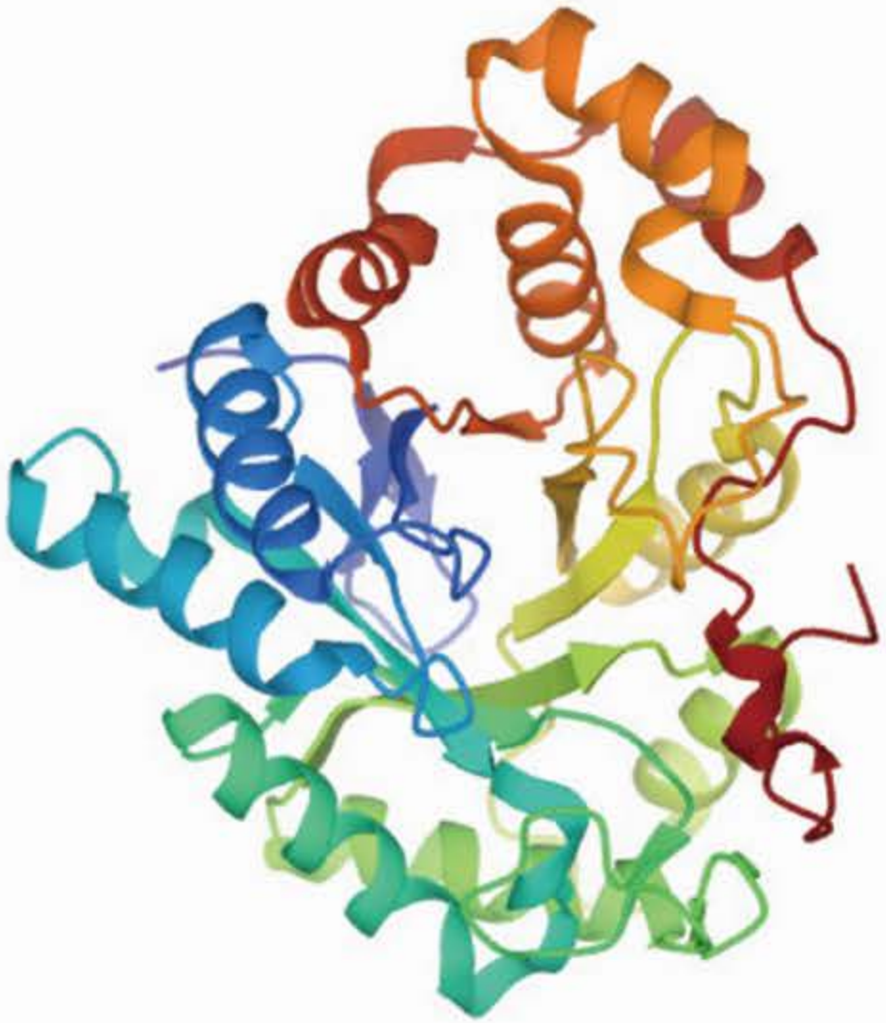
Cancer types	Expression	Functional role	Mechanism	Role
PCa	High	Promotion of proliferation; metastasis; invasion; EMT; dedifferentiation; angiogenesis.	Promotion of PI3K/AKT pathway; MAPK pathway; ERK pathway; NF-κB pathway; IGF/AKT pathway; SNP; ROS clearance.	Tumor promotor
BRC	High	Promotion of PTEN loss; EMT; inhibition of apoptosis.	Promotion of the PTEN/Akt pathway; ERK/CREB pathway.	Tumor promotor
EC	High	Inhibition of differentiation.	Promotion of the ratio of E2 to P; PPARγ depriving.	Tumor promotor

UBC	High	No found.	Promotion of SNP; genetic variation.	Tumor promotor
AML	High	Promotion of proliferation; inhibition of differentiation; apoptosis.	Promotion of SNP; PPARγ depriving.	Tumor promotor

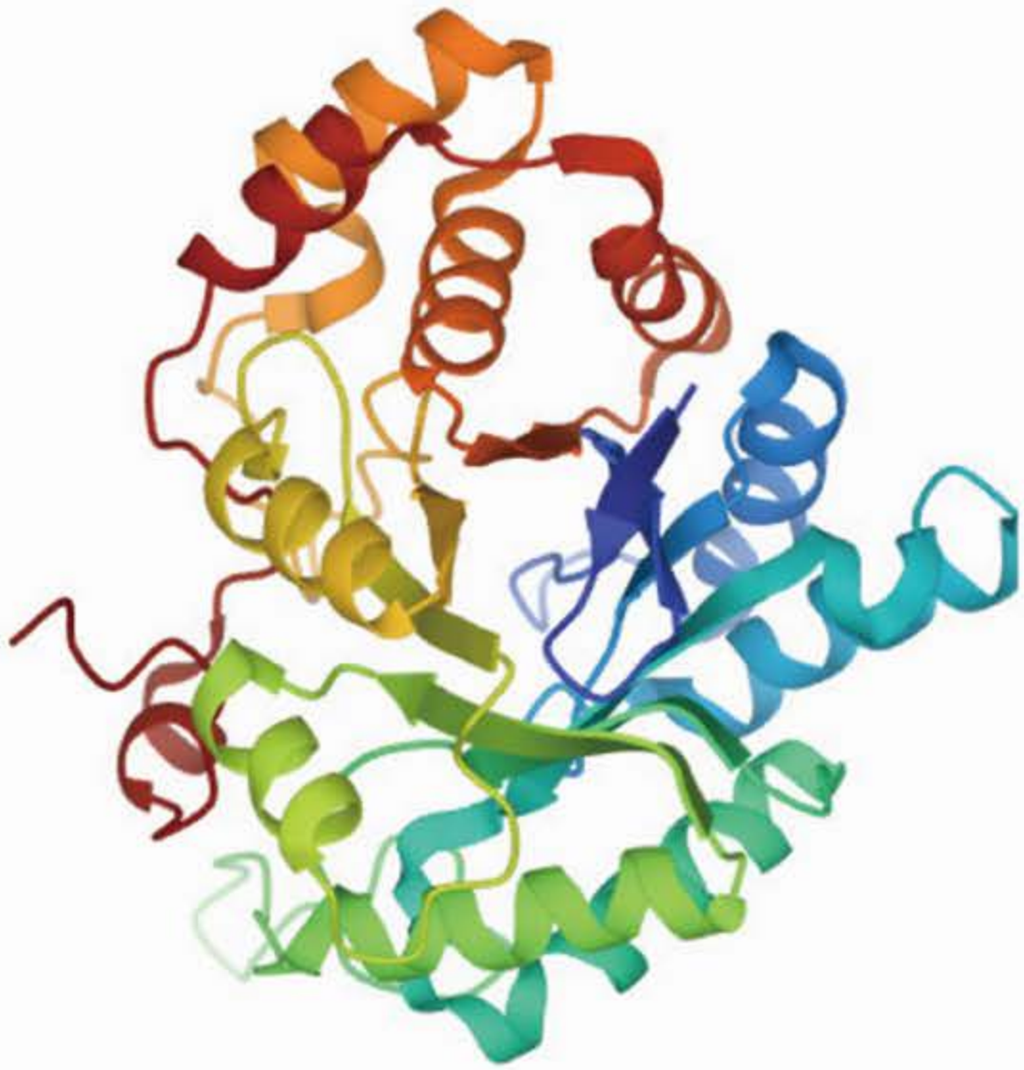
AKR1C3: C3 subtype of aldosterone reductase family 1;AKT: Protein kinase B, AML: Acute myeloid leukemia, BRC: Breast cancer, CREB: cAMP-response element-binding protein, E2: Estrogen 2, EC: Endometrial cancer, EMT: Epithelial-to-mesenchymal transition, ERK: Extracellular-regulated protein kinases, IGF: Insulin-like growth factor, MAPK: Mitogen-activated protein kinase, NF-κB: Nuclear factor kappa-B, P: Progestin, PCa: Prostate cancer, PI3K: Phosphatidylinositol 3 kinase, PPARγ: Peroxisome proliferator-activated receptor γ, PTEN: Phosphatase and tensin homolog deleted on chromosome ten, ROS: Reactive oxygen species, SNP: Single-nucleotide polymorphism, UBC: Urinary bladder carcinoma.



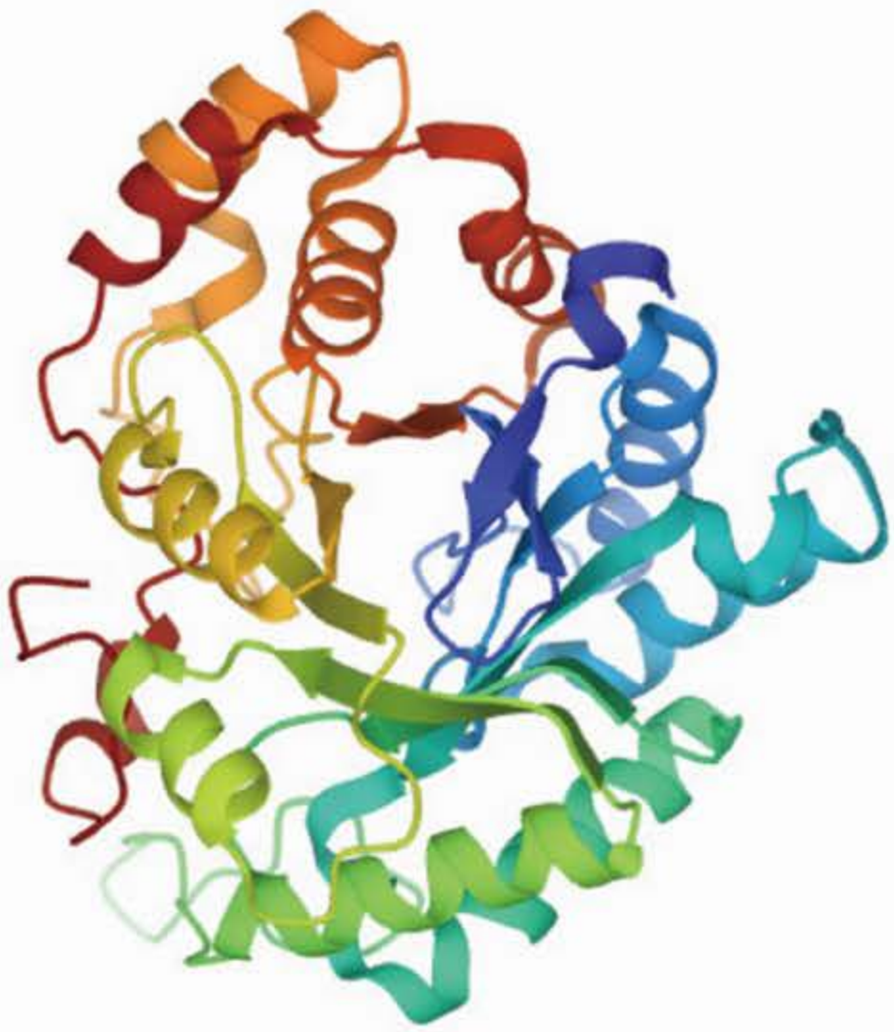
AKR1C1(PDB ID:6A7A)



AKR1C2(PDB ID:1LHL)



AKR1C3(PDB ID:6A7B)



AKR1C4(PDB ID:2FVL)