PDIA4

PDIA4 (Protein Disulfide Isomerase Family A Member 4) is a Protein Coding gene. Diseases associated with PDIA4 include Epiphyseal Dysplasia, Multiple, 1 and Leukoencephalopathy With Vanishing White Matter. Among its related pathways are Insulin receptor recycling and Aldosterone synthesis and secretion. Gene Ontology (GO) annotations related to this gene include isomerase activity. An important paralog of this gene is PDIA3.

Disulfide bond formation is catalyzed by the protein disulfide-isomerases (PDI) family. This is a critical step in protein folding which occurs within the endoplasmic reticulum. PDIA4, as a member of the PDI family, can cause the adjustment of αIIβ 3 affinities which activate platelet and promote thrombosis formation. Endoplasmic reticulum response is triggered by accumulation of abnormal folding proteins concomitant with increasing PDIA4 expression. Besides, current researches indicate that activated platelets and ERS response affect tumor progression. And PDIA4, as previous reported, also participates in tumor progression by affecting cell apoptosis and DNA repair machinery without specific mechanisms revealed.Therefore, PDI inhibitor might possess great potential value in against tumor progression [1)]

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Wang Z, Zhang H, Cheng Q. PDIA4: The basic characteristics, functions and its potential connection with cancer. Biomed Pharmacother. 2019 Nov 30;122:109688. doi: 10.1016/j.biopha.2019.109688. [Epub ahead of print] Review. PubMed PMID: 31794946.