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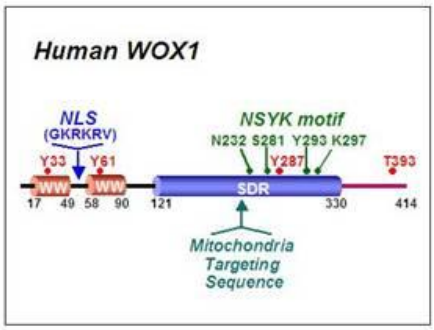
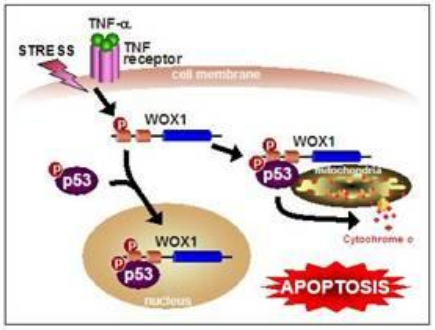
We aim to elucidate the functional properties of a candidate tumor suppressor WW domain-containing oxidoreductase (designated WWOX, FOR or WOX1). The full-length WWOX/WOX1 (414 amino acids, 46 kDa) consists of two N-terminal WW domains (containing conserved tryptophan residues), a nuclear localization sequence (NLS) between the WW domains, and a C-terminal short-chain alcohol dehydrogenase/reductase (SDR) domain. By deletion analysis, the mitochondria-targeting sequence has been mapped in the SDR domain of WOX1.

We have determined that WOX1 participates in the regulation of cell apoptosis and cancer progression. Ectopically overexpressed WWOX/WOX1 suppresses cancer cell growth in nude mice. Functional suppression of WOX1 by antisense mRNA, dominant negatives, and small interfering RNA (siRNA) protects cells from apoptosis by tumor necrosis factor, staurosporine, UV light, and ectopic p53 in vitro. The molecular mechanism by which WOX1 regulates cell apoptosis is being underway.





Education

1995.9-2002.1	Ph.D., Institute of Basic Medical Sciences, National Cheng Kung University, Tainan, Taiwan
1993.6-1995.6	M.S., Department of Microbiology and Immunology, National Cheng Kung University, Tainan, Taiwan
1987.9-1991.6	B.S., School of Technology for Medical Sciences, Kaohsiung Medical College, Kaohsiung, Taiwan

Research

1. The regulatory role of WOX1 in cancer progression.
2. Modulation of signaling pathways by WOX1.