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Werner syndrome (*WRN*) gene variants and their association with altered function and age-associated diseases

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Highlights

- Focus on five prevalent *WRN* gene nonsynonymous single nucleotide polymorphisms (SNPs)
- Summary of reported SNP-phenotype association studies for these SNP variants
- Critical review of SNP associations with age-related diseases
- Discussion of role of ethnic origin, age, and environmental exposure as association modifiers
- Discussion of potential mechanistic bases for *WRN* SNP-phenotype associations

ABSTRACT

Werner syndrome (WS) is a heritable autosomal recessive human disorder characterized by the premature onset of several age-associated pathologies including cancer. The protein defective in WS patients, WRN, is encoded by a member of the human *RECQ* gene family that contains both