Ku Subunit Gene

National Cancer Institute

Source

Ku Subunit Genes encode tightly-associated 70-kDa Ku70 Protein and 80-kDa Ku80 Protein subunits of heterodimeric DNA-binding Ku Protein, a DNA damage repair complex that, with the 470-kDa catalytic DNA-PKcs subunit forms DNA-dependent protein kinase, binds and repairs double-stranded DNA breaks, facilitates repair by nonhomologous end-joining, and is involved in V(D)J recombination. Ku also binds to DNA ends with a telomere binding protein and mediates telomere capping to prevent fusion of chromosome ends and genetic instability. KU70 and KU80 form a dyad-symmetrical ring molecule that encircles duplex DNA. Ku is identical to DNA helicase II, an ATP-dependent DNA unwinding enzyme. (NCI)