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Ku Subunit Gene

National Cancer Institute

Source

National Cancer Institute. *Ku Subunit Gene*. NCI Thesaurus. Code C20566.

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)