

TREVIGEN[®] Product Data

For Research Use Only. Not For Use In Diagnostic Procedures

Ku 70/80 Complex

Catalog #: 4135-250-01

Size: 250 Units

Description: Human Ku 70/80 complex consists of 69.7 kDa and 82.6 kDa subunits, both of which act independently as ATP-dependent DNA helicases. The complex binds at double stranded DNA breaks and recruits DNA-PK, RAD50-Mre11-Xrs2, and XRCC4/DNA ligase IV to the site to facilitate nonhomologous end joining (NHEJ). Ku 70/80 complex also participates in NHEJ during V(D)J recombination of immunoglobulin genes, which is necessary for generating the large antibody repertoire. The complex also restores activity to an immuno-depleted cell free DNA repair assay.

Source: Recombinant Ku heterodimer.

Unit Definition: One Unit is the amount of Ku 70/80 complex required to shift 100 fmoles of a labeled oligonucleotide duplex in 30 minutes at 25°C in an electrophoretic mobility shift assay.

Specificity: Ku 70/80 complex binds to ends of double stranded DNA breaks

Assay Conditions:

Duplex oligonucleotides: 1 pmole of an end labeled 24-mer oligonucleotide was incubated with 2 pmoles of a complementary oligonucleotide in 25 mM Tris-Cl (pH 7.8), 0.5 mM EDTA, 5 mM MgCl₂, 10 % glycerol, and 0.1% bromophenol blue in a reaction volume of 10 µl for 10 minutes at 65°C, and slow cooled to 22°C.

Gel shift: Serial dilutions of the Ku 70/80 complex were incubated with the oligonucleotide duplex at 25°C for 30 minutes. Products were resolved on a 5% non-denaturing polyacrylamide gel.

Storage Buffer: 50 mM Tris-Cl (pH 7.9), 0.3 M KCl, 1 mM EDTA, 0.02 % Tween 20, 15% glycerol, 1 mM DTT, and 10 µg/ml PMSF.

Storage Conditions: Store in working aliquots at -80°C. Avoid repeated freeze thaws.

References:

1. Dynan, W. and S. Yoo. 1998. Interaction of Ku protein and DNA dependent protein kinase catalytic subunit with nucleic acids. *Nucleic Acids Res* **26**:1551-1559.
2. Yoo, S. and W. Dynan. 1999. Geometry of a complex formed by double stranded break repair proteins at a single DNA end: recruitment of DNA PKcs induces inward translocation of Ku protein. *Nucleic Acids Res* **27**:4679-4686.

Lot Specific Data: see reverse

TREVIGEN[®]

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Related Products:

Catalog#	Description	Size
4020-100-EB	Human DNA Polymerase β	100 U
4025-100-EB	<i>E. coli</i> Uracil-N-Glycosylase (UNGase)	100 U
4040-100-EB	<i>E. coli</i> Formamidopyrimidine-DNA Glycosylase (Fpg)	500 U
4045-01K-EB	<i>E. coli</i> Endonuclease III (Thymine Glycol-DNA Glycosylase)	1000 U
4050-100-EB	<i>E. coli</i> Endonuclease IV (nfo protein)	100 U
4055-100-EB	T4 Endonuclease V (T4-Pyrimidine Dimer Glycosylase/T4-PDG)	10 ⁵ U
4060-01K-EB	<i>E. coli</i> Endonuclease VIII	1000 U
4065-100-EB	Chlorella Virus Pyrimidine Dimer Glycosylase (cv-PDG)	1000 U
4090-500-EB	Mouse 3-mA DNA Glycosylase (Aag protein)	500 U
4100-100-EB	<i>S. pombe</i> UVDE	100 μ l
4110-01K-EB	Human Apurinic/Apyrimidinic Endonuclease (hAPE)	1000 U
4120-100-EB	Human FEN-1 (Flap Endonuclease)	100 U
4070-500-EB	Thermostable TDG Protein	500 U
4130-100-EB	Human 8-oxoGuanine DNA Glycosylase (hOGG1)	100 U

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Complex**

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