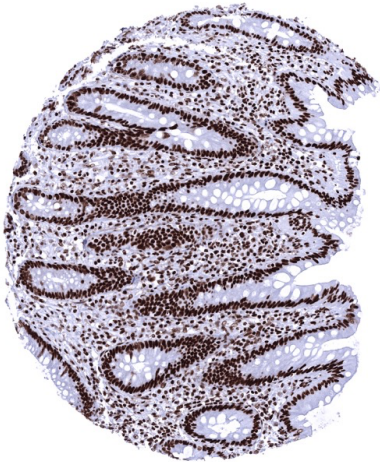


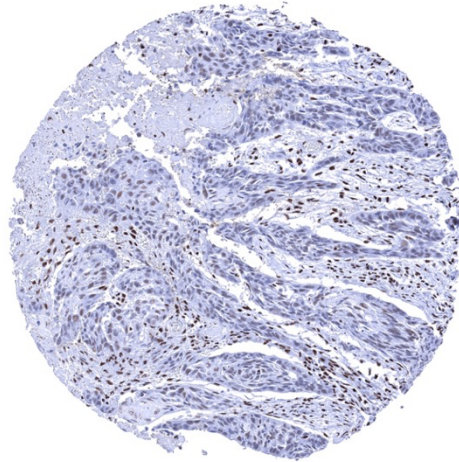
Anti- XRCC5 / Ku-80 Antibody MSVA-880M / Mouse monoclonal

Human SwissProt	P13010
Human Gene Symbol	XRCC5
Synonyms	ATP-dependent DNA helicase II 80kDa subunit; CTC box-binding factor 85kDa subunit (CTC85); CTCBF; DNA repair protein XRCC5; KARP1; Ku autoantigen 80kDa; Ku80; Ku86; KUB2; Lupus Ku autoantigen protein p86; Nuclear factor IV (NFIV); Thyroid-lupus autoantigen; TLAA; X-ray repair cross-complementing protein 5 (XRCC5)
Specificity	XRCC5
Immunogen	Recombinant human XRCC5 fragment
Isotype	Mouse / IgG
Species Reactivity	Human

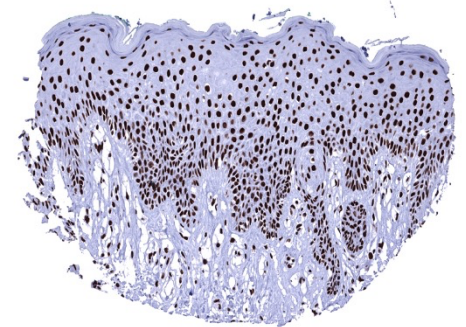
Localization	Nucleus. Nucleoplasm.
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available without BSA
Positive Control	Tonsil: A strong staining should be seen in the nuclei of all cells.
Negative Control	A tumor or a cell line with documented loss of Ku80 expression.



Appendix mucosa showing a strong nuclear Ku80 staining in all cells.



Esophageal squamous cell carcinoma with reduced Ku80 staining of tumor cells as compared to stroma cells.



Strong nuclear Ku80 staining in all cells of the skin.

Biology

Ku80 is an 80 kDa protein that is coded by the XRCC5 gene on chromosome 2q35. Together with Ku70 it forms the Ku heterodimer, which binds to DNA double-strand break ends. The Ku heterodimer is essential for the non-homologous end joining (NHEJ) pathway of DNA repair and V(D)J recombination as well as for telomere length maintenance and subtelomeric gene silencing. In cancer, deletion or mutation of the Ku80 (or Ku70) genes results in a highly radiosensitive phenotype. Low function of Ku80 leads to accelerated aging. Ku80(-/-) mice exhibit early onset of senescence. The quantity of Ku80 protein varies greatly between species and is strongly linked to longevity. Ku80 acts as an autoantigen in systemic lupus erythematosus. In normal tissues, Ku80 immunostaining occurs in virtually all nuclei of all cells in all tissues. Variations of the staining intensity are hardly discernible. A reduced level of expression is seen in hepatocytes and spermatids. Nuclear Ku80 immunostaining is seen in the vast majority of tumors although the intensity may vary considerably between individual cases.

Potential Research Applications

-Expression levels of the protein may have a prognostic and/or predictive role in cancer.

Protocol Suggestions

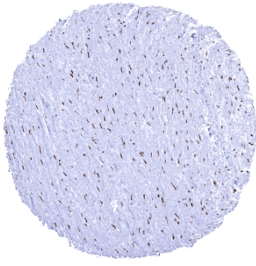
Dilution: 1:150 ; pH 7,8 is optimal. Freshly cut sections should be used (less than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

Limitations

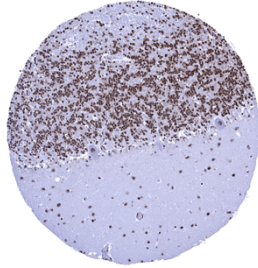
This antibody is available for **research use only** and is not approved for use in diagnostics.

Warranty

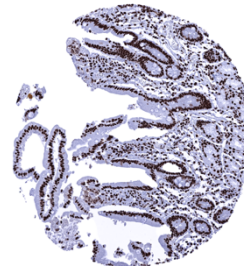
There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.



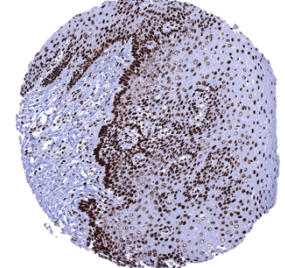
Aorta, media - A marked Ku80 staining is seen in all nuclei of all cells



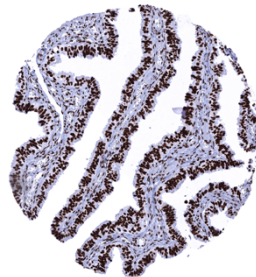
Cerebellum (molecular layer, Purkinje cell layer, granule cell layer)



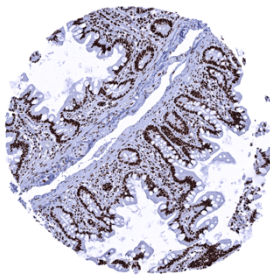
Duodenum, mucosa



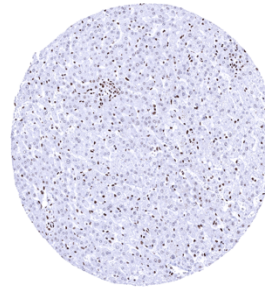
Esophagus, squamous epithelium



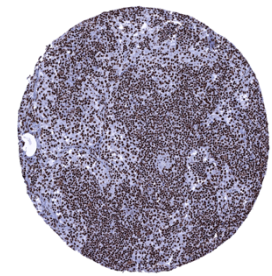
Fallopian tube, mucosa



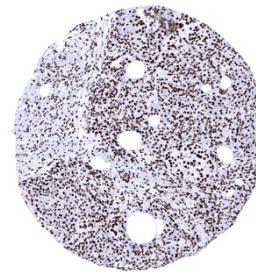
Ileum, mucosa



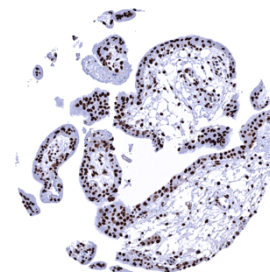
Liver - Ku80 staining is markedly lower in hepatocytes than in other cell types in the liver



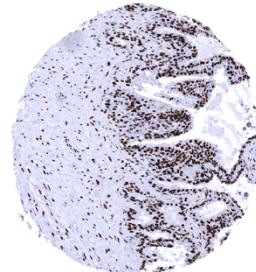
Lymph node



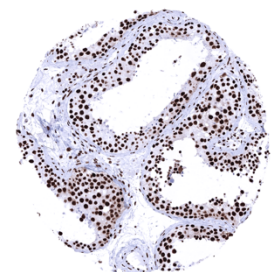
Pancreas



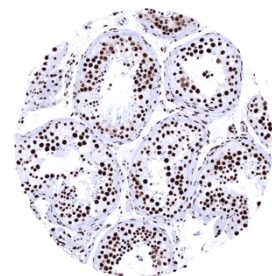
Placenta, early



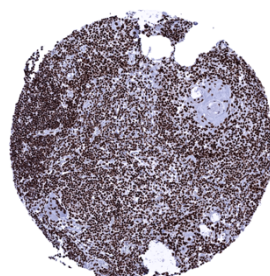
Seminal vesicle



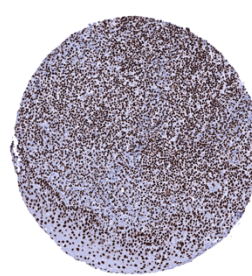
Testis - As compared to other cell types, Ku80 staining is lower in spermatids



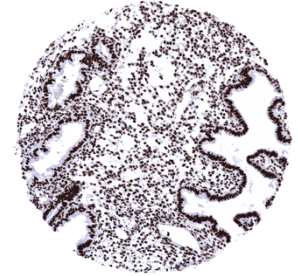
Testis - Ku80 staining is markedly lower in spermatids than in other cell types in the testis



Thymus



Tonsil, surface epithelium - A marked Ku80 staining is seen in all nuclei of all epithelial and lymphatic cells



Uterus, endometrium (secretion)