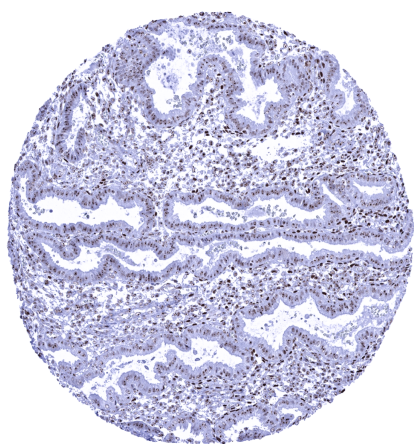


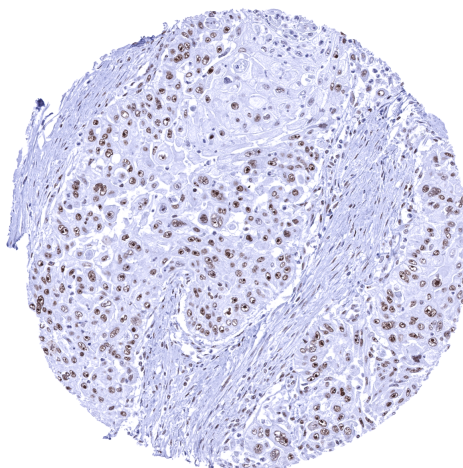
Anti- Nucleolin Antibody MSVA-623R / Recombinant Rabbit monoclonal

Human SwissProt	P19338
Human Gene Symbol	NCL
Synonyms	NCL; Nucl; Nucleolin; Protein C23
Specificity	Nucleolin
Immunogen	Recombinant fragment of human NCL protein
Isotype	Rabbit / IgG
Species Reactivity	Human
Localization	Nucleoli

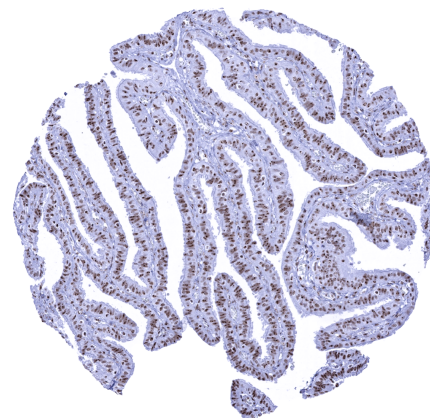
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available without BSA
Positive Control	Colon: A nuclear nucleolin immunostaining should be seen in all cells. A focus of the staining on nucleoli should be visible – at least – in the superficial epithelial cell layer.
Negative Control	Colon: A cytoplasmic or membranous nucleolin immunostaining should be absent in all cells.



Rectum, mucosa - A periostin positive subepithelial band is regularly seen in the colorectal mucosa. Additional periostin deposits occur in the lamina propria.



Abundant periostin positive stroma in an invasive lobular breast cancer.



Skin - Periostin is most regularly seen in a subepithelial band of variable thickness in the skin.

Biology

Nucleolin (NCL) also termed C23 is a 100-kDa multifunctional DNA/RNA-binding nucleolar phosphoprotein coded by the NCL gene located at chromosome 2q37.1. Nucleolin is one of the most common proteins in the nucleolus and accounts for about 10% of the protein content in the nucleolus. It is highly expressed in proliferating cells and involved in ribosome assembly, transcriptional regulation, chromatin remodeling, cell proliferation, differentiation and apoptosis. Nucleolin binds a broad variety of nucleic acids and induces chromatin decondensation by binding to histone H1. Nucleolin can also be transferred to the cell membrane, where it, for example, acts as a receptor for the Respiratory Syncytial Virus (RSV) fusion protein. Nucleolin plays an important role in cancer where increased levels of nucleolin can be found in the nuclei, and the level of cytoplasmic and cell surface nucleolin may be increased. Nucleolin depletion leads to cell cycle arrest. Both nucleolar and cell surface nucleolin are considered potential therapeutic targets. In normal tissues, nucleolin immunostaining occurs in virtually all nuclei of all cells in all tissues. In cell types with discernible nucleoli, the immunostaining is most distinct in nucleoli. In other tissues, the entire nucleus is homogeneously stained. Slight variations of the staining intensity occur between tissues and cell types. In general, staining intensity appears highest in tissues with high proliferation rate. Nucleolin staining can be rather weak in gastric glands, superficial epithelium of the colon, decidua cells, or neurons. Among tumors, a nuclear and nucleolar immunostaining is seen in the cells of virtually all neoplasms while the intensity of the staining is variable to some extent. In a fraction of tumors, the staining is not purely nuclear but also cytoplasmic.

Potential Research Applications

- Nucleolin is a promising target for anti-cancer therapy and should be further studied.
- Studying the molecular activities of cell-surface nucleolin and the distribution of nucleolin in cells is warranted.
- The interactions of surface nucleolin with ligands are poorly understood.
- Distinction of nuclei and nucleoli in multicolor immunohistochemistry.

Protocol Suggestions

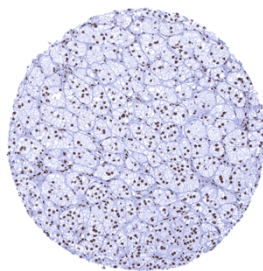
Dilution: 1:150 ; pH 7,8 is optimal. Freshly cut sections should be used (less than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

Limitations

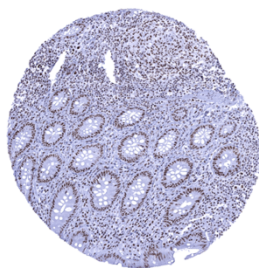
This antibody is available for **research use only** and is not approved for use in diagnostics.

Warranty

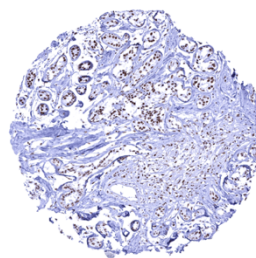
There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.



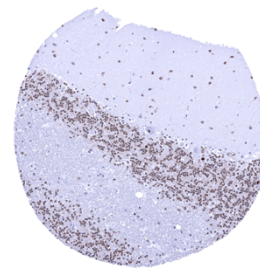
Adrenal gland



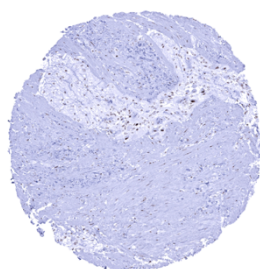
Appendix, mucosa



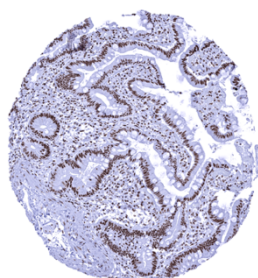
Breast



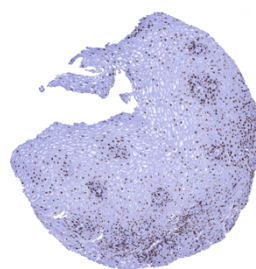
Cerebellum (molecular layer, Purkinje cell layer, granule cell layer)



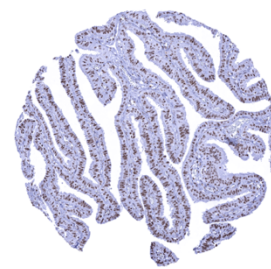
Colon descendens, muscular wall



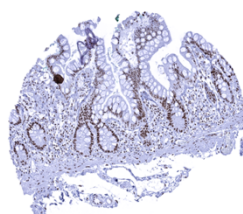
Duodenum, mucosa



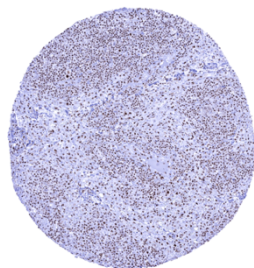
Esophagus, squamous epithelium - The entire nuclei of epithelial cells are positive but the nucleolin immunostaining is often most distinct in the nucleoli



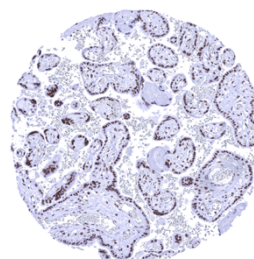
Fallopian tube, mucosa - The entire nuclei of epithelial cells are nucleolin positive but the immunostaining is most distinct in the nucleoli.



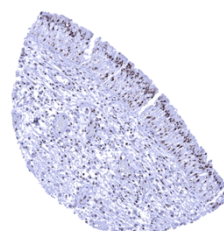
Ileum, mucosa



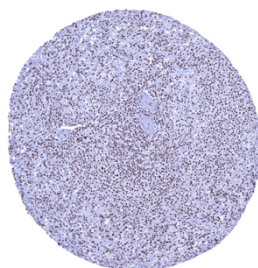
Lymph node



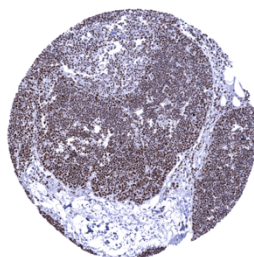
Placenta, mature



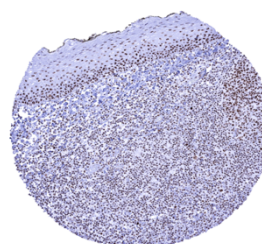
Sinus paranasales -In this sample of respiratory epithelium, nucleolin staining is particularly prominent in the nucleoli of epithelial (and also inflammatory) cells



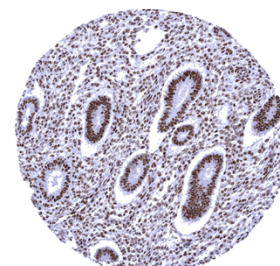
Spleen



Thymus



Tonsil, surface epithelium - In the surface epithelium, nucleolin staining is more prominent in the basal and suprabasal cells than in the superficial cell layers. The entire nuclei of epithelial cells are positive but the nucleolin immunostaining is often most distinct in the nucleoli.



Uterus, endometrium (proliferation) - Strong diffuse nucleolin immunostaining of the entire nuclei in all cells