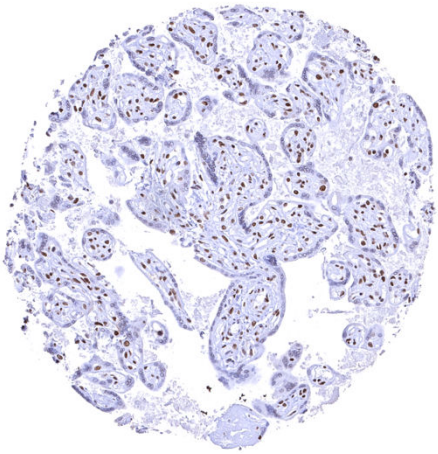
MS Validated Antibodies GmbH
Bergstedter Chaussee 62a
22395 Hamburg, Germany
Tel: +49 (0) 40 89 72 55 81
E-Mail: info@ms-validatedantibodies.com
Website: ms-validatedantibodies.com

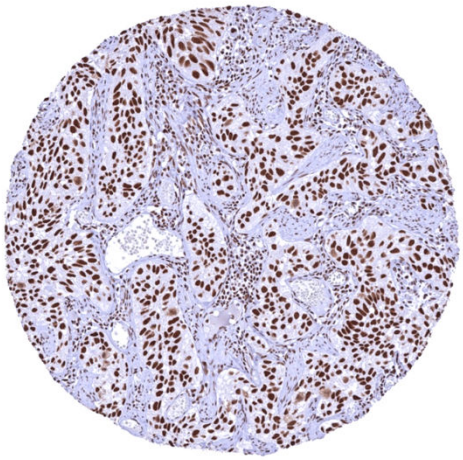
Anti- BRD4 Antibody
HMV4275 / Recombinant Rabbit monoclonal

Human SwissProt	O60885
Human Gene Symbol	BRD4
Synonyms	CAP, FSHRG4, HUNK1, HUNKI, MCAP
Specificity	BRD4
Immunogen	Recombinant human BRD4fragment
Isotype	Rabbit / IgG
Species Reactivity	Human
Localization	Nuclear

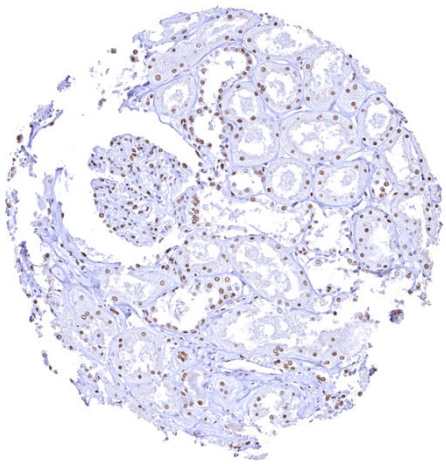
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	Purified antibody from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with <1% BSA & <0.1% azide. Antibody concentrate is optimized for dilution within dilution range using commercially available antibody diluent for IHC.
Positive Control	Kidney: A moderate to strong BRD4 staining should be seen in all cell types.
Negative Control	Placenta (mature)*: BRD4 staining should be absent or only weak in nuclei of the syncytiotrophoblast but strong in other cell types.
Note	Syncytiotrophoblast of the mature placenta is (together with spermatids of the testis) the cell type with (by far) the least BRD4 staining (although some cells may show a weak staining in certain samples, perhaps depending on the maturity)



Mature placenta with either absent or massively reduced BRD4 staining in the syncytiotrophoblast.



Muscle-invasive urothelial carcinoma with intense BRD4 immunostaining of all tumor cells.



Renal cortex showing a moderate to strong BRD4 staining of tubular and glomerular cells.

Biology

Bromodomain-containing protein 4 (BRD4) is a multifunctional nuclear protein which is a member of the BET (bromodomain and extra terminal domain) family. As all other BET family members, BRD4 contains two bromodomains - termed BD1 and BD2 - that recognize acetylated lysine residues of histones or other proteins. BRD4 acts as a passive scaffolding factor that recruits several chromatin and transcriptional regulatory factors. Because of its additional enzymatic functions (kinase and HAT activity) it also modifies and thereby regulates its interacting partners one of it is cMYC. BRD4 plays a role in various biological processes including DNA replication, DNA repair, transcription, as well as cell cycle and signaling during stress responses. BRD4 dysfunction has been associated with a broad range of disease types including cancer, kidney, lung, heart, inflammatory and auto immune diseases, organ fibrosis, and neuro-degenerative disorders. BRD4 is ubiquitously expressed. Only few cell types such as hepatocytes, the syncytiotrophoblast of the mature placenta, and the most mature cells of the spermatogenesis have a massively reduced or absent BRD4 expression. BRD4 expression occurs - at variable levels - in cancers of all types. BRD4 is an actively researched drug target, partly due to its critical regulatory role for cMYC. Multiple clinical trials are ongoing.

Potential Research Applications

-The mechanisms involving BRD4 in disease are not fully understood.
-The utility of BRD4 measurement in cancer needs to be evaluated.
-The utility of BRD4 as a biomarker is not clear.
-BRD4 is an intensively investigated therapeutic target.

Protocol Suggestions

Dilution: 1:100 – 1:200 ; pH 7,8 is optimal. Freshly cut sections should be used (more than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

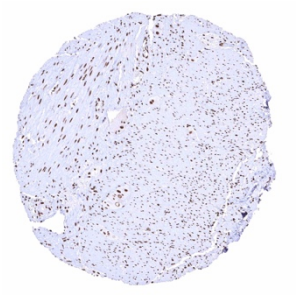
Limitations

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

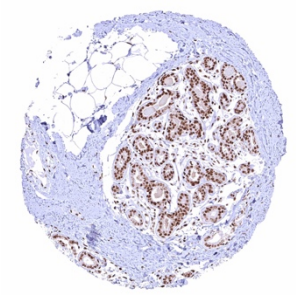
Warranty

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.

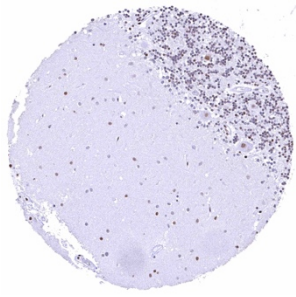
MS Validated Antibodies GmbH
Bergstedter Chaussee 62a
22395 Hamburg, Germany
Tel: +49 (0) 40 89 72 55 81
E-Mail: info@ms-validatedantibodies.com
Website: ms-validatedantibodies.com



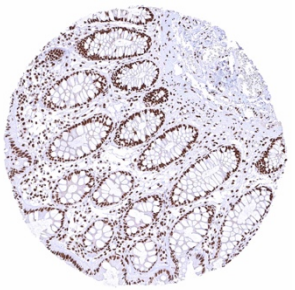
Appendix, muscular wall – Distinct nuclear BRD4 staining of smooth muscle and ganglion cells.



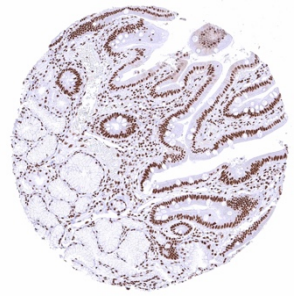
Breast – Distinct nuclear BRD4 staining of epithelial cells.



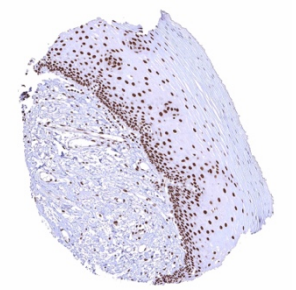
Cerebellum, cortex (molecular layer, Purkinje cell layer, granule cell layer) – Nuclear BRD4 staining of Purkinje cells, cells of the granule layer (variable intensity), and glia cells.



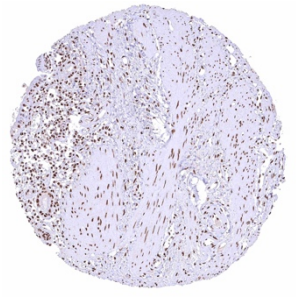
Colon descendens, mucosa – Nuclear BRD4 staining of surface epithelial cells is weaker than in crypts.



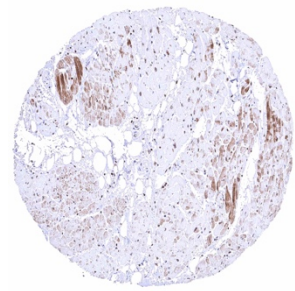
Duodenum, mucosa – BRD4 staining of surface epithelial cells is markedly stronger than in Brunner glands.



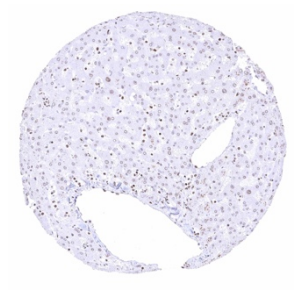
Esophagus, squamous epithelium – Distinct nuclear BRD4 staining of squamous epithelial cells with a slight decrease of the staining intensity towards the most superficial cell layers.



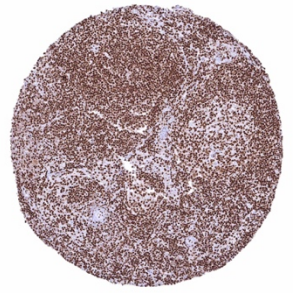
Gallbladder, epithelium



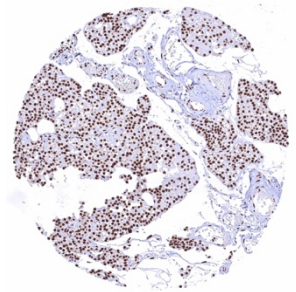
Heart muscle – Distinct nuclear BRD4 staining of all cells. The additional cytoplasmic staining of some muscle cells may represent an antibody specific cross-reactivity.



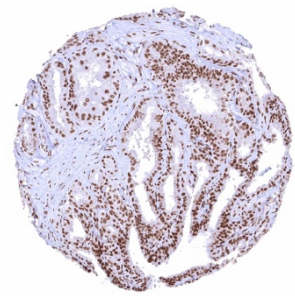
Liver – Nuclear BRD4 staining occurs in all cells, but is clearly weakest in hepatocytes.



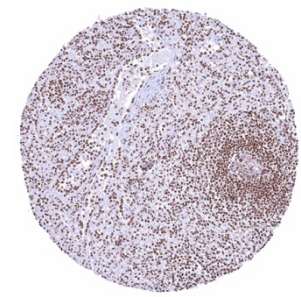
Lymph node – Strong nuclear BRD4 staining of all cell types.



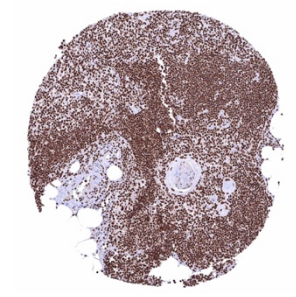
Parathyroid gland – Strong nuclear BRD4 staining of epithelial cells.



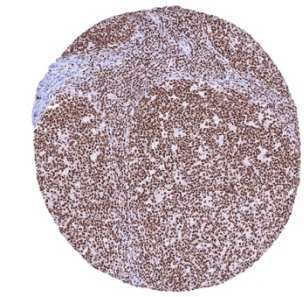
Seminal vesicle



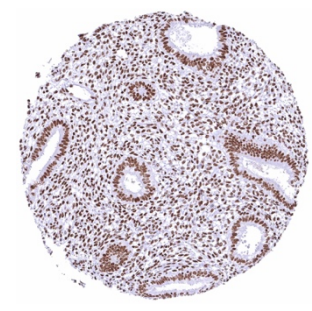
Spleen – Strong nuclear BRD4 staining of all cell types.



Thymus – Strong nuclear BRD4 staining of all cell types.



Tonsil – Strong nuclear BRD4 staining of all cell types.



Uterus, endometrium (proliferation)