# **Product Datasheet**

# SPINK1 Antibody (4D4) - Azide and BSA Free H00006690-M01

Unit Size: 0.1 mg

Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.

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Updated 2/21/2025 v.20.1

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#### H00006690-M01

SPINK1 Antibody (4D4) - Azide and BSA Free

Product Information		
Unit Size	0.1 mg	
Concentration	Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services.	
Storage	Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.	
Clonality	Monoclonal	
Clone	4D4	
Preservative	No Preservative	
Isotype	IgG2a Kappa	
Purity	IgG purified	
Buffer	PBS, pH 7.4	
Product Description		
Description	Quality control test: Antibody Reactive Against Recombinant Protein.	
Host	Mouse	
Gene ID	6690	
Gene Symbol	SPINK1	
Species	Human, Mouse	
Reactivity Notes	Mouse reactivity reported in scientific literature (PMID: 32929152)	
Specificity/Sensitivity	SPINK1 - serine protease inhibitor, Kazal type 1	
Immunogen	SPINK1 (AAH25790, 24 a.a. ~ 79 a.a) partial recombinant protein with GST tag. MW of the GST tag alone is 26 KDa. DSLGREAKCYNELNGCTKIYDPVCGTDGNTYPNECVLCFENRKRQTSILIQKSG PC	
Notes	This product is produced by and distributed for Abnova, a company based in Taiwan.	
Product Application Details		
Applications	Western Blot, ELISA, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry- Paraffin, Immunoprecipitation	
Recommended Dilutions	Western Blot, ELISA, Immunohistochemistry, Immunocytochemistry/ Immunofluorescence, Immunoprecipitation, Immunohistochemistry-Paraffin, Immunohistochemistry-Frozen	



#### Images

Western Blot: SPINK1 Antibody (4D4) [H00006690-M01] - Detection against Immunogen (31.9 kDa). Antibody reactive against recombinant protein.



Immunohistochemistry-Paraffin: SPINK1 Antibody (4D4) [H00006690-M01] - Analysis of SPINK1 antibody (4D4) on mouse pancreas tissue. Antibody concentration 1 ug/ml. Image from verified customer review.

Western Blot: SPINK1 Antibody (4D4) [H00006690-M01] - SPINK1 monoclonal antibody (M01), clone 4D4. Analysis of SPINK1 expression in human pancreas.

Immunohistochemistry-Paraffin: SPINK1 Antibody (4D4) [H00006690-M01] - Analysis of monoclonal antibody to SPINK1 on formalin-fixed paraffin-embedded human pancreas. Antibody concentration 1 ug/ml.





250 -

100-

75 = 50 = 37 =

25 -

15-



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Immunohistochemistry: SPINK1 Antibody (4D4) [H00006690-M01] - Representative images for immunohistochemical staining of SPINK1in 22RV1 xenograft tumors excised from orchiectomized mice treated with enzalutamide (20mg/kg body weight) or vehicle control (n=5 each). Intact group represents non-castrated control mice (n=5). Scale bar represents 50um. Image collected and cropped by CiteAb from the following publication (nature.com/articles/s41467-019-14184-0), licensed under a CC-BY license.	Castrated End Castrated Castra
Immunohistochemistry: SPINK1 Antibody (4D4) [H00006690-M01] - Representative images showing H&E staining (x200 magnification) and immunostaining (x200 magnification) for AR, synaptophysin, and SPINK1 in tumor specimens obtained from NEPC patients', namely WCM12, WCM155 (an organoid), and WCM677. Scale bar represents 100um. Image collected and cropped by CiteAb from the following publication (nature.com/articles/s41467-019-14184-0), licensed under a CC-BY license.	HLE AR SYP SPINKI THOUGH CHARACTER OF CONTRACT OF CON
Immunohistochemistry: SPINK1 Antibody (4D4) [H00006690-M01] - IHC staining for SPINK1 and NPY of an adjacent section on the ST array. Nuclei are stained with DAPI (blue). Scale bar indicates 1mm. Image collected and cropped by CiteAb from the following publication (nature.com/articles/s41467-018-04724-5), licensed under a CC-BY license.	SPINKT (green)NPY (red)DNA (blue)
Immunohistochemistry: SPINK1 Antibody (4D4) [H00006690-M01] - ADT induced SPINK1 upregulation associates with NE-phenotype in mice and NEPC patients. Representative images of immunohistochemical staining for the same markers shown in a using VCaP xenograft tumors. Scale bar represents 100 um. Image collected and cropped by CiteAb from the following publication (https://www.nature.com/articles/s41467-019-14184 -0), licensed under a CC-BY license.	b VCaP xenograft SPINK1





Immunohistochemistry: SPINK1 Antibody (4D4) [H00006690-M01] -SPINK1 is negatively correlated with AR in PCa patients.a Heatmap depicting AR & SPINK1 expression in TCGA-PRAD cohort (n = 180). Shades of yellow & blue represents expression values in log2 (RPM+1). b Representative micrographs depicting PCa tissue microarray (TMA) cores (n = 237), immunostained for SPINK1 & AR expression by immunohistochemistry (IHC). Top panel shows representative IHC for SPINK1 in SPINK1-negative (SPINK1-) & SPINK1-positive (SPINK1+) patients. Bottom panel represents IHC for AR expression in the tumor core from same patients. Scale bar represents 500 µm & 100 µm for the entire core & the inset images, respectively. c Bar plot showing percentage of IHC scoring for AR in the SPINK1+ & SPINK1- patients' specimens. P-value for the Chi-Square test is indicated. d Contingency table for the AR & SPINK1 status. Patients showing high or medium expression of AR were grouped as AR-(Hi/Med), while patients with low or null AR expression were indicated as AR-(Low/Neg). P-value for Fisher's exact test is indicated. Image collected & cropped by CiteAb from the following publication

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Immunohistochemistry: SPINK1 Antibody (4D4) [H00006690-M01] -Spatial gene expression heterogeneity within the 1.2 cancer tissue sample. a Factor activity maps for selected factors corresponding to epithelial, stromal, cancerous, PIN, or inflamed regions. Remaining factors' activity maps in Supplementary Figure 2 & Supplementary Data 1. b Annotated brightfield image of H&E-stained tissue section. c Heatmap of the 20 most variable genes between cancer, PIN & normal gland regions, using spot sets from Supplementary Fig. 4b. Centered rlog: difference of rlog (variance-stabilized transform of ST expression data) & gene-wise mean rlog. Arrows highlight genes of interest validated by immunohistochemistry (IHC). d First two principal components of spot sets from c separate cancer, PIN & normal regions. e Array dot plots for SPINK1 & NPY. Circle size in array dot plots indicates normalized ST counts. f IHC staining for SPINK1 & NPY of an adjacent section on the ST array. Nuclei are stained with DAPI (blue). Scale bar indicates 1 mm Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/29925878), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



SPINICI (greentNPY (red)DNA (blue)





Immunohistochemistry: SPINK1 Antibody (4D4) [H00006690-M01] - ADT induced SPINK1 upregulation associates with NE-phenotype in mice & NEPC patients a Box plots depicting relative expression of SPINK1, SYP, CHGA, TUBB3, & VIM transcripts (read counts) in VCaP tumors implanted orthotopically in orchiectomized mice & subjected to vehicle (n = 4) or anti-androgens [enzalutamide (n = 4) or ARN-509 (n = 4)] treatment for 4 weeks (GSE95413). b Representative images of immunohistochemical staining for the same markers shown in a using VCaP xenograft tumors as described in a. Scale bar represents 100 µm. c Box plots depicting quantification of the immunohistochemical staining in VCaP xenografts for the markers shown in b. d Representative images for immunohistochemical staining of SPINK1, SYP, CHGA, & TUBB3 in 22RV1 xenograft tumors excised from orchiectomized mice treated with enzalutamide (20 mg/kg body weight) or vehicle control (n = 5 each). Intact group represents non-castrated control mice (n = 5). Scale bar represents 50 µm. e Box plots depicting quantification of the immunohistochemical staining in 22RV1 xenografts for the markers shown in d. f Representative images showing H&E staining (×200 magnification) & immunostaining (×200 magnification) for AR, synaptophysin, & SPINK1 in tumor specimens obtained from NEPC patients', namely WCM12, WCM155 (an organoid), & WCM677. Scale bar represents 100 µm. Data are presented as box-and-whisker plots with median, where the box extends from 25th-75th percentile, & whiskers ranges from minimum & maximum values. For panels a, c, e one-way ANOVA, Dunnett's multiple-comparisons test was applied. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/31959826), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

Immunohistochemistry: SPINK1 Antibody (4D4) [H00006690-M01] - ADT induced SPINK1 upregulation associates with NE-phenotype in mice & NEPC patients a Box plots depicting relative expression of SPINK1. SYP, CHGA, TUBB3, & VIM transcripts (read counts) in VCaP tumors implanted orthotopically in orchiectomized mice & subjected to vehicle (n = 4) or anti-androgens [enzalutamide (n = 4) or ARN-509 (n = 4)] treatment for 4 weeks (GSE95413). b Representative images of immunohistochemical staining for the same markers shown in a using VCaP xenograft tumors as described in a. Scale bar represents 100 µm. c Box plots depicting quantification of the immunohistochemical staining in VCaP xenografts for the markers shown in b. d Representative images for immunohistochemical staining of SPINK1, SYP, CHGA, & TUBB3 in 22RV1 xenograft tumors excised from orchiectomized mice treated with enzalutamide (20 mg/kg body weight) or vehicle control (n = 5 each). Intact group represents non-castrated control mice (n = 5). Scale bar represents 50 µm. e Box plots depicting quantification of the immunohistochemical staining in 22RV1 xenografts for the markers shown in d. f Representative images showing H&E staining (×200 magnification) & immunostaining (x200 magnification) for AR, synaptophysin, & SPINK1 in tumor specimens obtained from NEPC patients', namely WCM12, WCM155 (an organoid), & WCM677. Scale bar represents 100 µm. Data are presented as box-and-whisker plots with median, where the box extends from 25th-75th percentile, & whiskers ranges from minimum & maximum values. For panels a, c, e one-way ANOVA. Dunnett's multiple-comparisons test was applied. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/31959826), licensed under a CC-BY license. Not internally tested by Novus Biologicals.







#### **Publications**

Man KF, Zhou L, Yu H et al. SPINK1-induced tumor plasticity provides a therapeutic window for chemotherapy in hepatocellular carcinoma Nature communications 2023-11-29 [PMID: 38030644]

Manzar N, Khan U, Goel A et al. An integrative proteomics approach identifies tyrosine kinase KIT as a novel therapeutic target for SPINK1-positive prostate cancer bioRxiv 2023-07-26 (IHC, Human)

Shun S, Takahiro K, Hajime O et al. Transition zone prostate cancer is associated with better clinical outcomes than peripheral zone cancer. BJUI Compass. 2020-10-06 [PMID: 35475132]

Abdullah S, Xiaodong L, Shisheng W et al. Enhancement of gemcitabine efficacy by K73-03 via epigenetically regulation of miR-421/SPINK1 in gemcitabine resistant pancreatic cancer cells. Phytomedicine. 2021-08-18 [PMID: 34450377]

Xiuyi P, Junya T, Xiaoxue Y et al. The roles of mutated SPINK1 gene in prostate cancer cells. Mutagenesis. 2022-09-16 [PMID: 36112498]

Palanisamy N, Arachchige PD, Carskadon S, Li J Clonal evaluation of prostate cancer molecular heterogeneity in biopsy samples by dual immunohistochemistry and dual RNA in situ hybridization Mod Pathol 2020-04-03 [PMID: 32238875]

Mehner C, Miller E, Hockla A et al. Targeting an autocrine IL-6-SPINK1 signaling axis to suppress metastatic spread in ovarian clear cell carcinoma Oncogene 2020-09-14 [PMID: 32929152] (IF/IHC, Mouse)

Tiwari R, Manzar N, Bhatia V et al. Androgen deprivation upregulates SPINK1 expression and potentiates cellular plasticity in prostate cancer Nat Commun 2020-01-20 [PMID: 31959826] (IF/IHC, Human)

Lu Z, Williamson SR, Carskadon S et al. Clonal evaluation of early onset prostate cancer by expression profiling of ERG, SPINK1, ETV1, and ETV4 on whole-mount radical prostatectomy tissue Prostate 2020-01-01 [PMID: 31584209]

Khani F, Mosquera JM, Park K et al. 325 DIFFERENCES IN TMPRSS2-ERG GENE FUSION AND SPINK1 OVEREXPRESSION IN PROSTATE CANCER IN AFRICAN-AMERICAN AND CAUCASIAN MEN. The Journal of Urology 2012-01-01

Faisal FA, Kaur HB, Tosoian JJ et al. SPINK1 expression is enriched in African American prostate cancer but is not associated with altered immune infiltration or oncologic outcomes post-prostatectomy. Prostate Cancer Prostatic Dis. 2019-03-08 [PMID: 30850708]

Bhatia V, Yadav A, Tiwari R et al. Polycomb Group protein EZH2-mediated transcriptional repression of microRNA-338/-421 drives SPINK1-positive prostate cancer bioRxiv 2018-07-24 (IHC-P, Human)

More publications at <u>http://www.novusbio.com/H00006690-M01</u>

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#### Products Related to H00006690-M01

HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP1-96981-0.5mg	Mouse IgG2a Kappa Isotype Control (M2AK)
NBP2-29620PEP	SPINK1 Antibody Blocking Peptide

#### Limitations

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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