

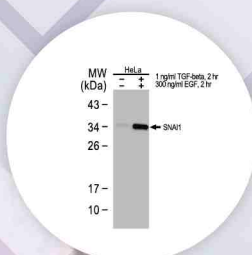


Your Expertise

Our Antibodies

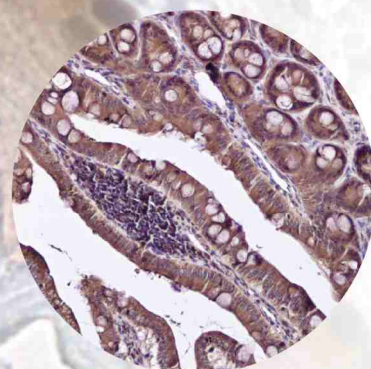
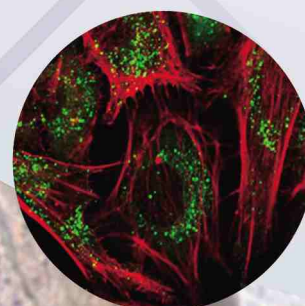
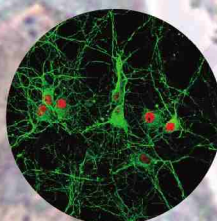
Accelerated Discovery

WORLD CLASS VALIDATED ANTIBODIES



Five Pillars of Ab Validation

- Knockout / Knockdown
- Comparable Antibodies
- IP/MS Analysis
- Biological and Orthogonal Characteristics
- Protein Overexpression



Five Pillars of Antibody Validation



GeneTex understands the absolute necessity for reliable antibodies to achieve accurate and reproducible experimental results. To optimize the performance of our reagents, we employ various analytic validation strategies to ensure both consistent quality (see GeneTex's Approach to Antibody Lot-to-Lot Variability) and specificity. These modalities are in line with guidelines described by the International Working Group on Antibody Validation (IWGAV) and have become fundamental components of our quality assurance process:



KO/KD Validation **Knockout/Knockdown**

Complete or significant reduction of signal following genome editing or RNA interference of target protein.

Comparable Abs **Comparable Antibodies**

Correlation between two antibodies against the same target with different epitopes across several samples, preferentially with different expression levels of the target protein.

IP/MS Analysis **IP/MS Analysis**

Mass spec analysis of target protein peptide sequences from samples immunoprecipitated by antibody from lysates.

Orthogonal Validation **Biological and Orthogonal Characteristics**

Change of antibody signal in accordance with defined biological characteristics of target protein following specific sample preparation parameters, including drug treatments, hypoxia conditions, or subcellular fractionation. Also, analysis of signals from various cell lines that either do or do not express the target in the context of protein or mRNA levels.

Protein Overexpression **Protein Overexpression**

To confirm the endogenous signals detected by the antibody are the target protein, transfected cells with cDNA encoding the target protein are used as a positive control and independently validated by western blot.

- **References:** *Nat Methods*. 2016 Oct;13(10):823-7.

GeneTex's Approach to Antibody Lot-to-Lot Variability



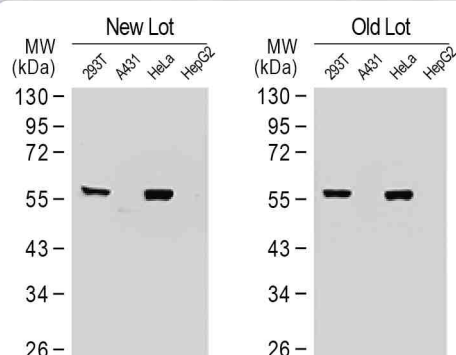
Lot-to-lot variability is a persistent quality control (QC) issue that contributes to inconsistent results in assays using antibodies. This is most pronounced when experiments require significant amounts of antibody so that multiple vials are needed, sometimes over extended periods of time. Subsequent discrepancies in the data between different trials lead to difficulties in interpretation and questionable scientific conclusions.

High Standard Manufacturing

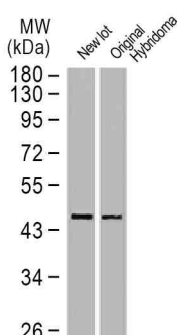
Polyclonal antibodies are commonly associated with lot variability related to distinct immune responses following different immunizations or even altered conditions during affinity purification from the same batch of serum. There are generally fewer concerns with monoclonal antibodies, though hybridoma instability is a constant threat to lot consistency.

GeneTex strives to provide highly reliable antibodies through not only our “Five-Pillar” approach, but also through stringent side-by-side testing to ensure lot-to-lot performance. This validation protocol is fully incorporated into GeneTex’s QC standards for both polyclonal and monoclonal antibody development. Please see examples below.

Polyclonal



Monoclonal



Side-by-side Testing

1. Ensure consistent MW size
2. Ensure consistent sensitivity
3. Ensure consistent specificity
4. Compare to the original hybridoma antibody prep for monoclonal antibodies

Loading Controls



MW (kDa)	Cytosol	Nucleus	Cytoskeleton	Mitochondria	Serum
>120 kDa			Vinculin (GTX109749)		
70-80 kDa				SDHA (GTX632636)	Transferrin (GTX21223)
60-70 kDa		Lamin B1 (GTX103292)			Albumin (GTX102419)
50-60 kDa			alpha Tubulin (GTX112141)	HSP60 (GTX110089)	
40-50 kDa			beta Tubulin (GTX101279) beta Actin (GTX109639)		
30-40 kDa	GAPDH (GTX100118)	TBP/TFIID (GTX133204)		VDAC1 (GTX114187)	
20-30 kDa		PCNA (GTX100539)	Cofilin (GTX102156)	COX4 (GTX114330)	
<20 kDa	Cyclophilin A (GTX104698)	Histone H3 (GTX122148)		Cytochrome C (GTX108585)	

Western HRP Substrates



Citation Support

Product name	Trident femto Western HRP Substrate		Trident pico Western HRP Substrate		Trident plus Western HRP Substrate
Cat.No.	GTX14698		GTX17435		GTX400006
Sensitivity	femtogram(10^{-15} g)		picogram(10^{-12} g)		picogram(10^{-10} ~ 10^{-12} g)
Package	100ml	200ml	100ml	500ml	500ml
	180 sec 90 sec 100 pg 20 pg 4 pg 0.8 pg Trident femto Western HRP Substrate (GTX14698) SuperSignal™ West Femto Trident pico Western HRP Substrate (GTX17435) Clarity™ Luminata™ Forte		180 sec 36 sec 500 pg 100 pg 20 pg Trident pico Western HRP Substrate (GTX17435) Clarity™ Trident plus Western HRP Substrate (GTX400006) Luminata™ Forte		

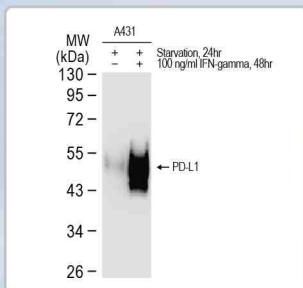
WB analysis using Trident femto Western HRP Substrate (GTX14698), Trident pico Western HRP Substrate (GTX17435) and Trident plus Western HRP Substrate (GTX400006) with various sample amounts and exposure times as indicated.

SuperSignal™ West Femto, Clarity™, and Luminata™ Forte are registered trademarks of Thermo Fisher Scientific, Bio-Rad, and EMD Millipore, respectively. The trademark holders are not affiliated with GeneTex and do not endorse

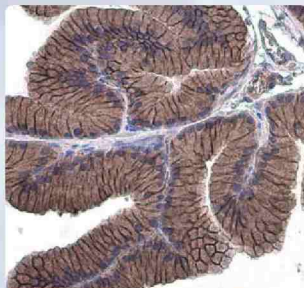
Cancer Research



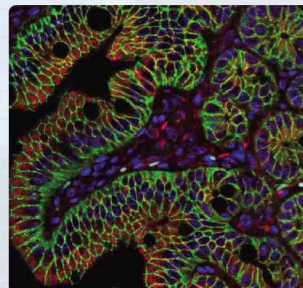
Citation Support
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 Protein Overexpression



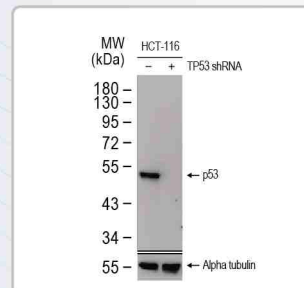
PD-L1 antibody
(GTX104763)



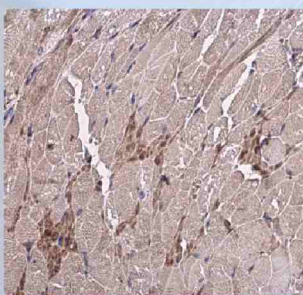
E-Cadherin antibody
(GTX100443)



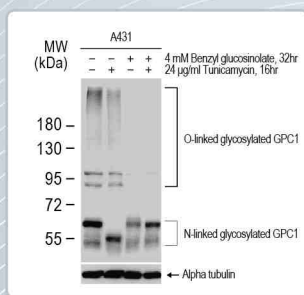
beta Catenin antibody
(GTX101435)



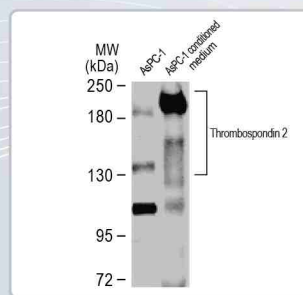
p53 antibody [DO1]
(GTX70214)



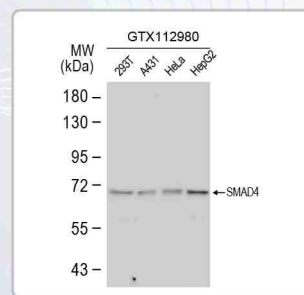
VEGF antibody
(GTX102643)



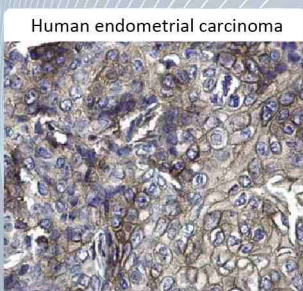
Glypican 1 antibody [N3C3]
(GTX104557)



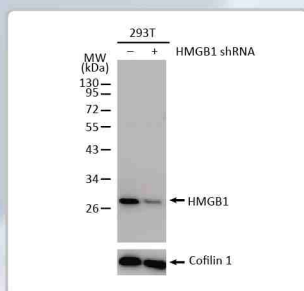
Thrombospondin 2 antibody
(GTX134554)



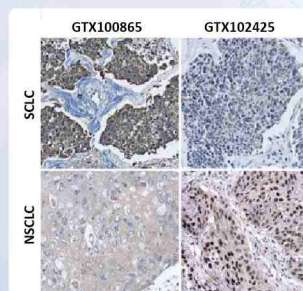
SMAD4 antibody
(GTX112980)



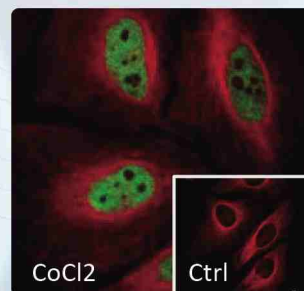
CD44 antibody
(GTX102111)



HMGB1 antibody
(GTX101277)



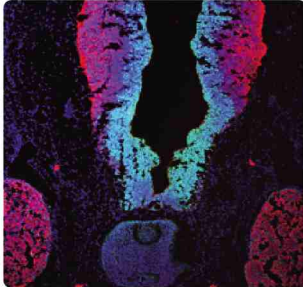
p63 antibody [N2C1], Internal
(GTX102425)



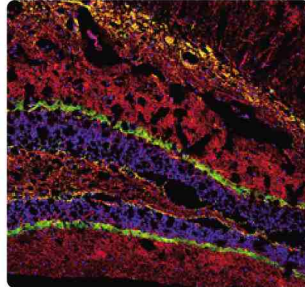
HIF1 alpha antibody
(GTX127309)

Cancer Research

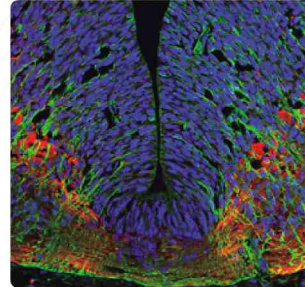
Neuroscience



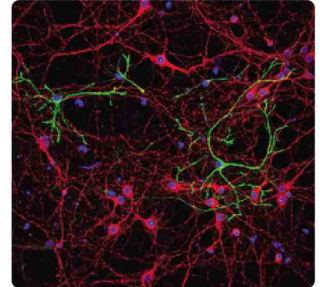
SOX2 antibody
(GTX101507)    



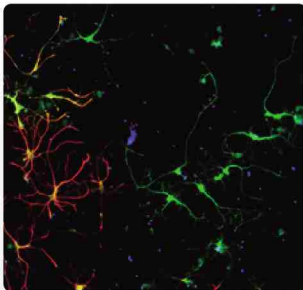
Calretinin antibody
(GTX103261)  



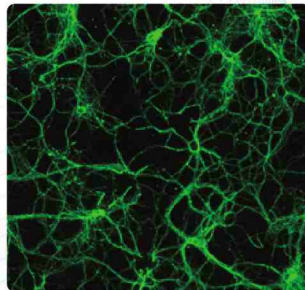
EFHD2 antibody
(GTX108080) 



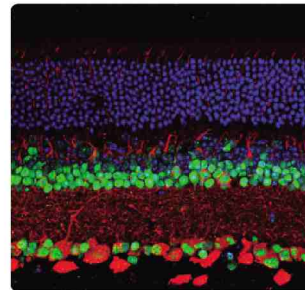
GFAP antibody
(GTX108711)    



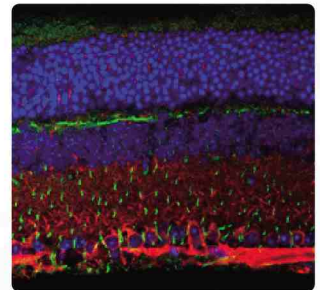
Glutamine synthetase
antibody [GT7711]
(GTX630657)  



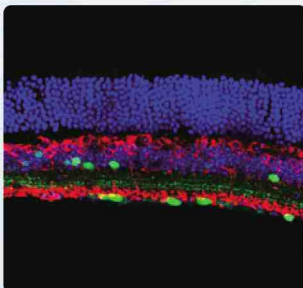
Tuj1 antibody [GT11710]
(GTX631836)   



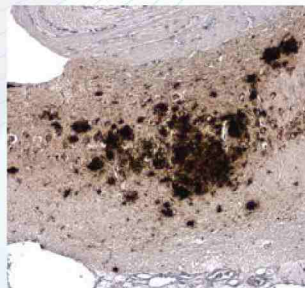
PAX6 antibody
(GTX113241)   



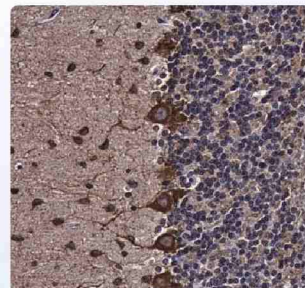
Vimentin antibody
(GTX112661)    



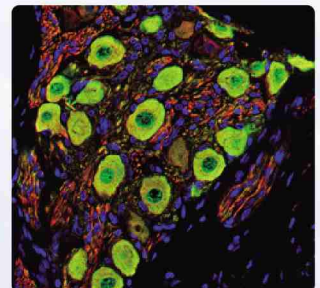
Choline Acetyltransferase
antibody [N1N3]
(GTX113164) 



beta Amyloid (1-42) antibody
Conformation Specific
(GTX134510)   



GAD67 antibody
(GTX101881)  



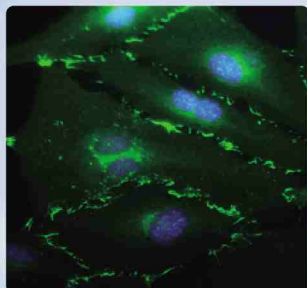
PGP9.5 antibody
(GTX109637)    

Neuroscience

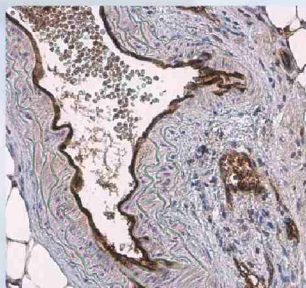
Cardiovascular Research



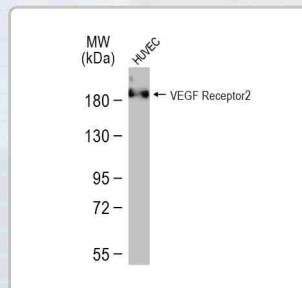
Citation Support
 KO/KD Validation
 Comparable Abs
 Orthogonal Validation
 Protein Overexpression



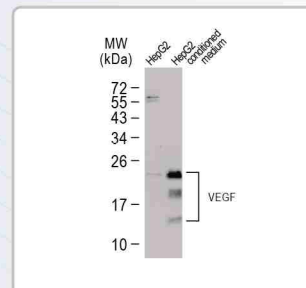
VE-Cadherin antibody
[GT1369] (GTX633705)



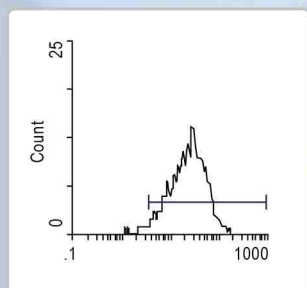
CD31 antibody
(GTX130274)



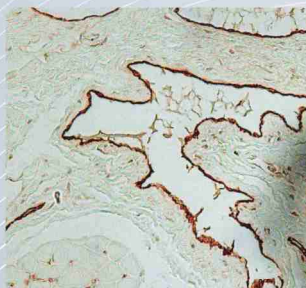
VEGF Receptor 2 antibody
(GTX129943)



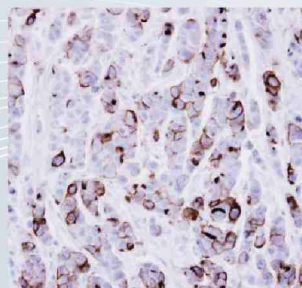
VEGF antibody
(GTX132777)



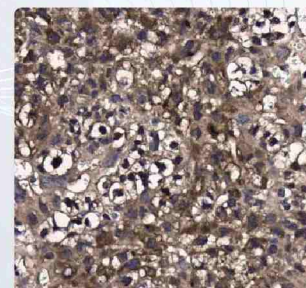
CD34 antibody [MEC14.7]
(GTX28158)



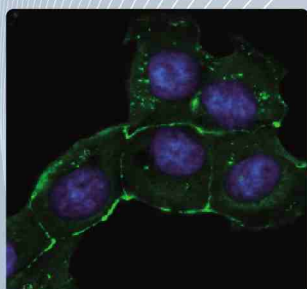
VWF antibody
(GTX26994)



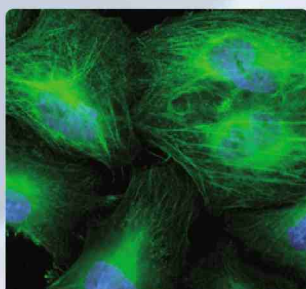
ICAM1 / CD54 antibody
[N1C2] (GTX100450)



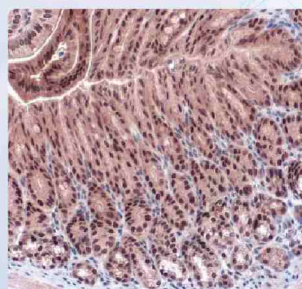
TIE2 antibody [C1C3]
(GTX107838)



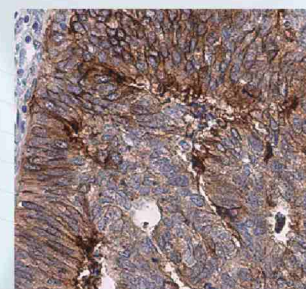
ZO-1 antibody [N1N2], N-term
(GTX108613)



alpha Smooth Muscle Actin
antibody [GT445]
(GTX629702)



GATA4 antibody
(GTX113194)

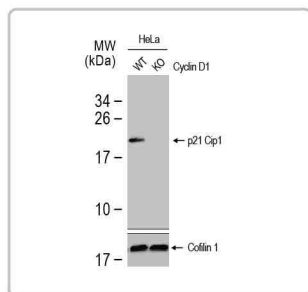


Coagulation factor III/Tissue
Factor antibody [N1C3]
(GTX100808)

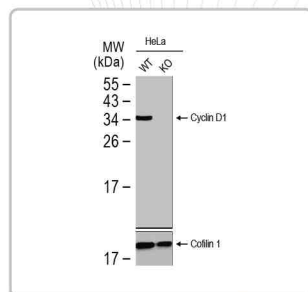
Cardiovascular Research



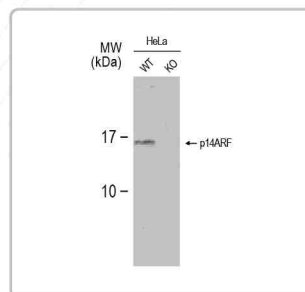
Citation Support
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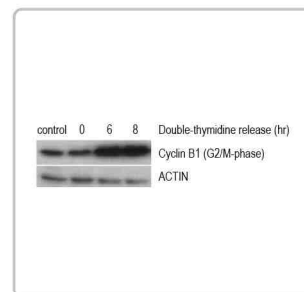
p21 Cip1 antibody [GT1032]
(GTX629543)



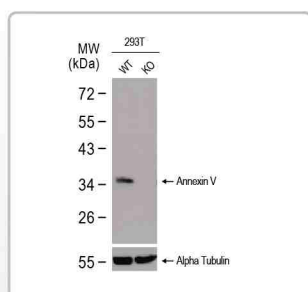
Cyclin D1 antibody
(GTX108624)



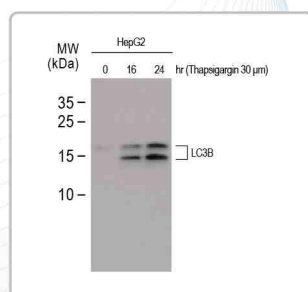
CDKN2A / p14ARF antibody
(GTX129902)



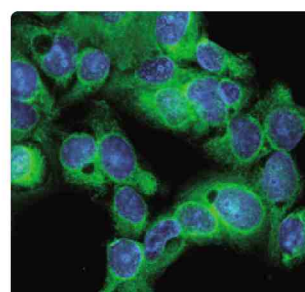
Cyclin B1 antibody
(GTX100911)



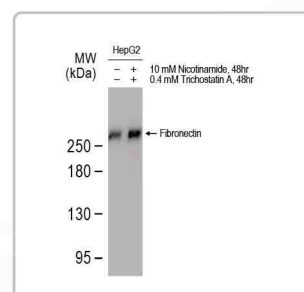
Annexin V antibody
(GTX103250)



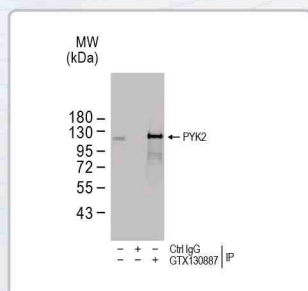
LC3B antibody
(GTX127375)



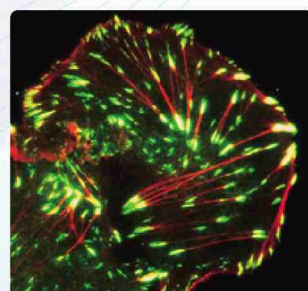
CDC2 antibody
(GTX108120)



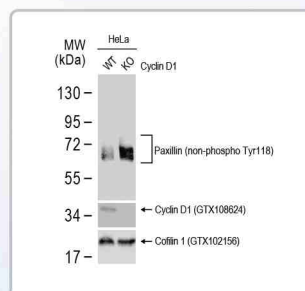
Fibronectin antibody
(GTX112794)



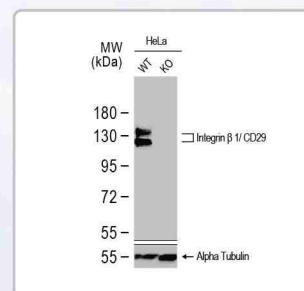
PYK2 antibody
(GTX130887)



Paxillin antibody
(GTX125891)



Paxillin (non-phospho Tyr118)
antibody [GT722]
(GTX633707)



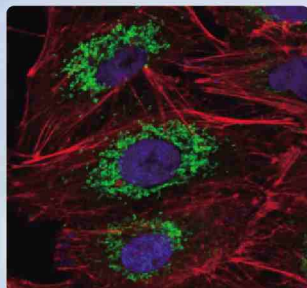
Integrin β 1 / CD29 antibody
(GTX128839)

Metabolism

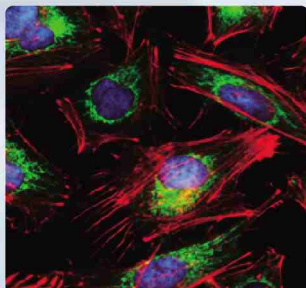


Citation Support
KO/KD Validation
Comparable Abs

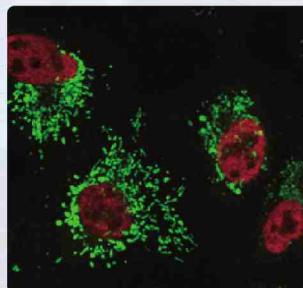
Orthogonal Validation
Protein Overexpression



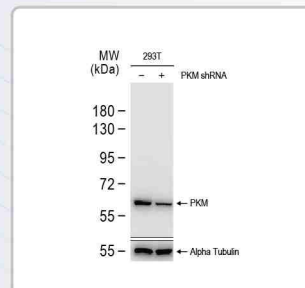
ALDH2 antibody
(GTX101429) Citation Support KO/KD Validation Orthogonal Validation



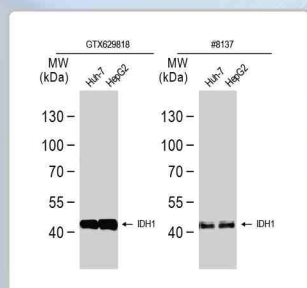
Citrate synthetase antibody
[GT1761] (GTX628143)
Citation Support KO/KD Validation Orthogonal Validation



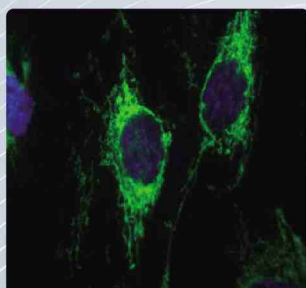
Glutaminase C antibody
(GTX131263) Citation Support KO/KD Validation



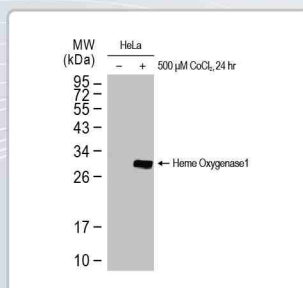
PKM antibody
(GTX107977) Citation Support KO/KD Validation Orthogonal Validation Protein Overexpression



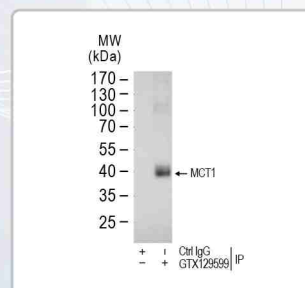
IDH1 antibody [GT1521]
(GTX629818) Citation Support KO/KD Validation Comparable Abs Orthogonal Validation



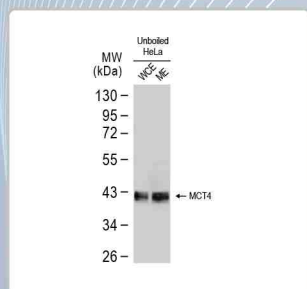
IDH2 antibody [GT673]
(GTX628487) Citation Support KO/KD Validation Orthogonal Validation



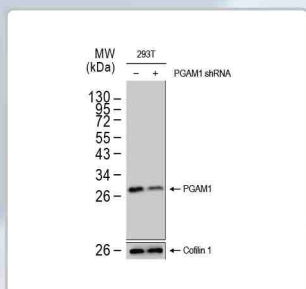
Heme Oxygenase 1 antibody
(GTX101147) Citation Support KO/KD Validation Orthogonal Validation



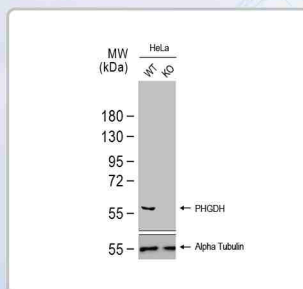
MCT1 antibody
(GTX129599) Citation Support Orthogonal Validation



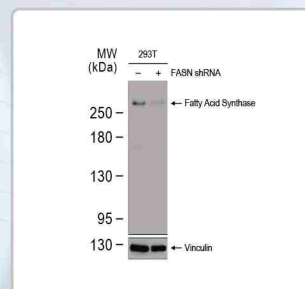
MCT4 antibody
(GTX131626) Orthogonal Validation



PGAM1 antibody [GT256]
(GTX629745) KO/KD Validation



PHGDH antibody [N1N2]
N-term (GTX101948) KO/KD Validation



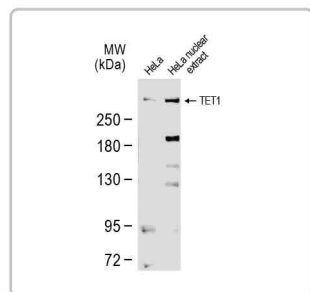
Fatty Acid Synthase
antibody [GT556]
(GTX629762) KO/KD Validation

Metabolism

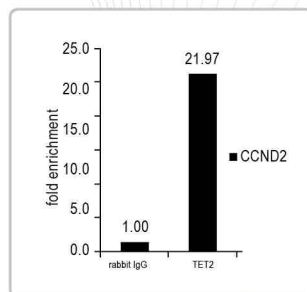
Epigenetics



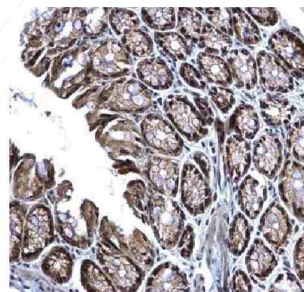
Citation Support
 KO/KD Validation
 Orthogonal Validation
 Protein Overexpression



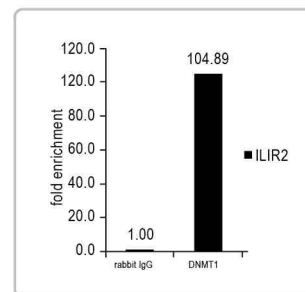
TET1 antibody [N3C1]
(GTX124207)



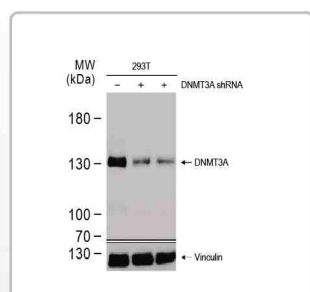
TET2 antibody [N2-2]
N-term (GTX124205)



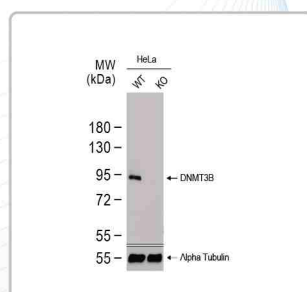
TET3 antibody [C3], C-term
(GTX121453)



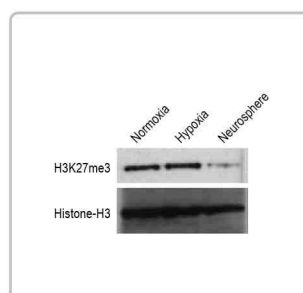
DNMT1 antibody [N1]
N-term (GTX116011)



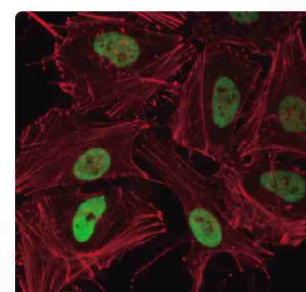
DNMT3A antibody
(GTX129125)



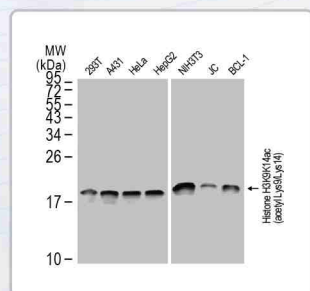
DNMT3B antibody
(GTX129127)



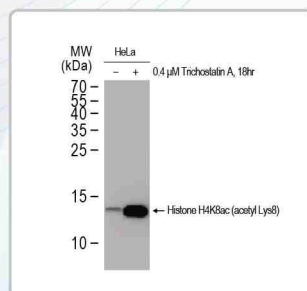
Histone H3K27me3 antibody
(GTX121184)



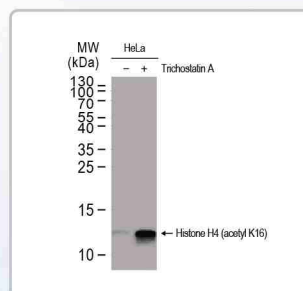
Histone H3K9ac antibody
(GTX630554)



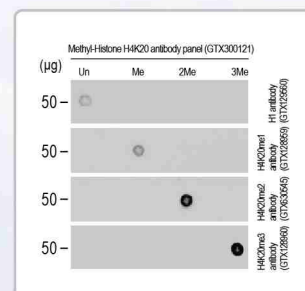
Histone H3K9K14ac
antibody (GTX122648)



Histone H4K8ac antibody
(GTX633420)



Histone H4K16ac antibody
(GTX632067)



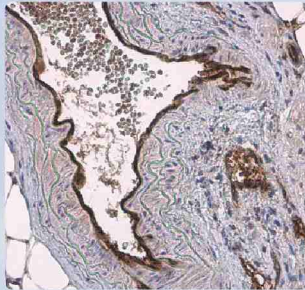
Histone H4K20me2 antibody
[GT1851] (GTX630545)

Epigenetics

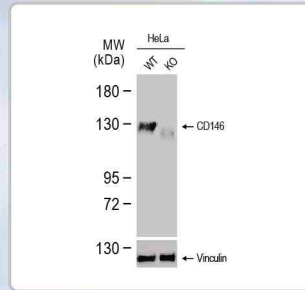
Cell Markers



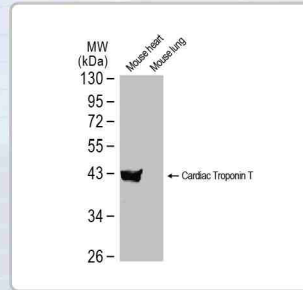
C Citation Support
 K KO/KD Validation
 A Comparable Abs
O Orthogonal Validation
 P Protein Overexpression



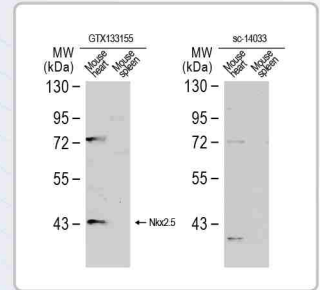
CD31 antibody
(GTX130274) C A



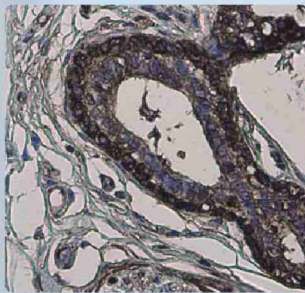
CD146 antibody [C1C3]
(GTX108777) C K P



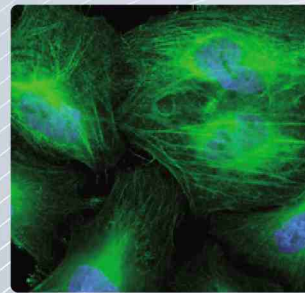
Cardiac Troponin T antibody
(GTX134489) A O



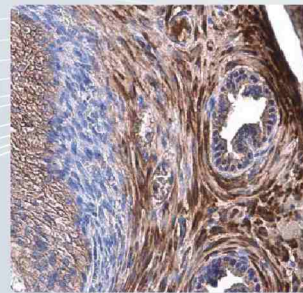
Nkx2.5 antibody
(GTX133155) C A O



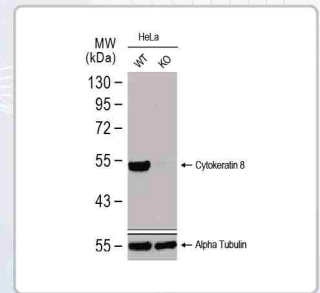
MYH9 antibody [GT566]
(GTX633960) P



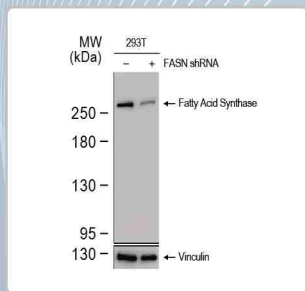
alpha Smooth Muscle Actin
antibody [GT445]
(GTX629702) C K



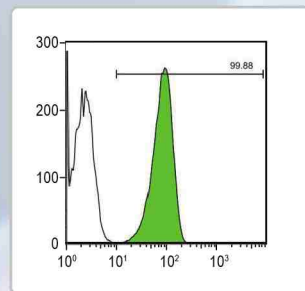
Transgelin antibody
[GT4511] (GTX629078) K



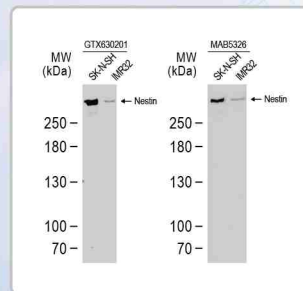
Cytokeratin 8 antibody
[N1C1] (GTX112975) C K



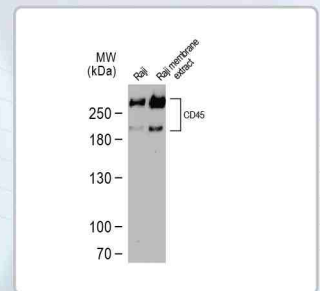
Fatty Acid Synthase
antibody [N1, N-term]
(GTX109833) C K P



Oct4 antibody [GT486]
(GTX627419) C K P



Nestin antibody [GT623]
(GTX630201) C A



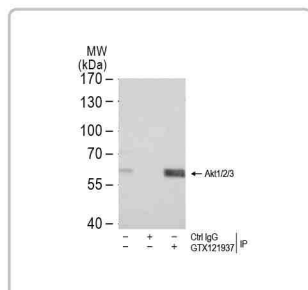
CD45 antibody [GT0014]
(GTX628507) C O

Cell Markers

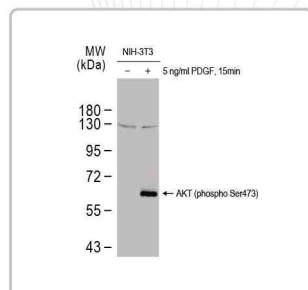
Signaling Pathway



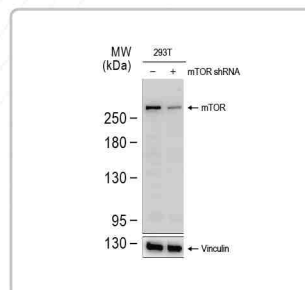
Citation Support
 KO/KD Validation
 Comparable Abs
 IP/MS Analysis
 Orthogonal Validation
 Protein Overexpression



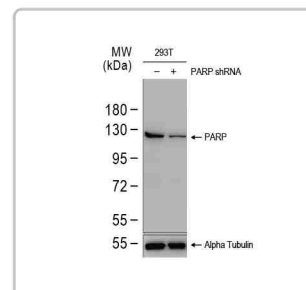
AKT antibody [N3C2] Internal (GTX121937)



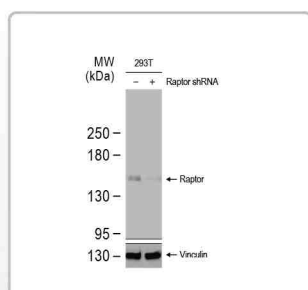
AKT (phospho Ser473) antibody (GTX132615)



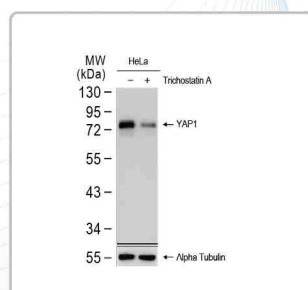
mTOR antibody [C3], C-term (GTX101557)



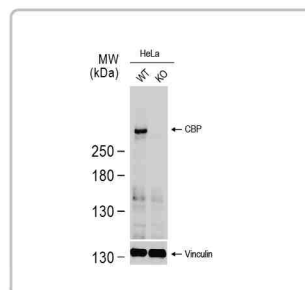
PARP antibody [N2C1] Internal (GTX112864)



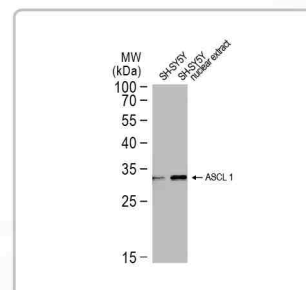
Raptor antibody (GTX132989)



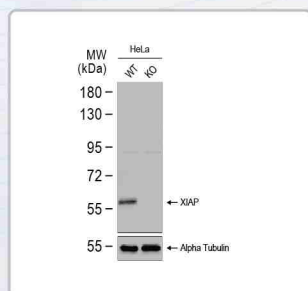
YAP1 antibody (GTX129151)



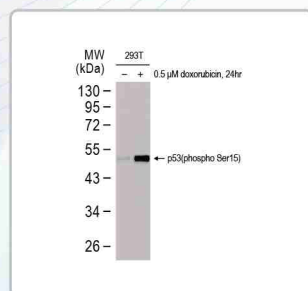
CBP antibody [C3], C-term (GTX101249)



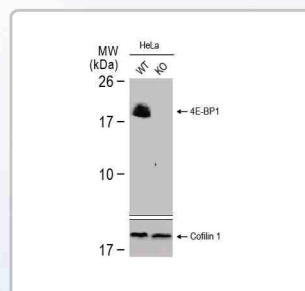
ASCL1 antibody (GTX129189)



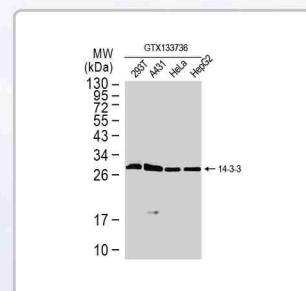
XIAP antibody [N1C1] (GTX113130)



p53 (pSer15) antibody (GTX132995)



4E-BP1 antibody [N1C3] (GTX109162)



14-3-3 antibody (GTX133736)

Signaling Pathway

Organelle Markers



Citation Support



KO/KD Validation

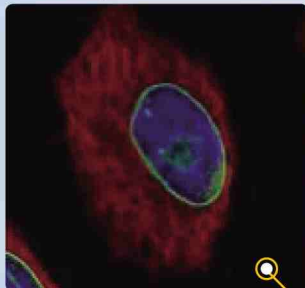


Comparable Abs



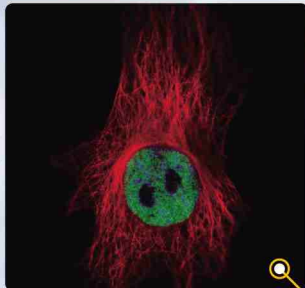
Orthogonal Validation

Nuclear Envelope



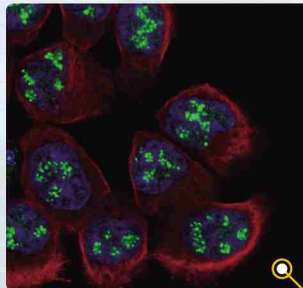
Lamin A/C antibody (GTX101127)    

Nucleus



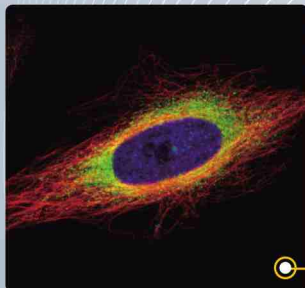
HDAC2 antibody (GTX109642)  

Nucleolus



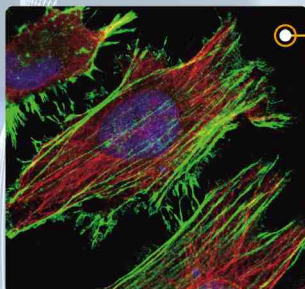
PAF49 antibody (GTX102175) 

Endoplasmic Reticulum

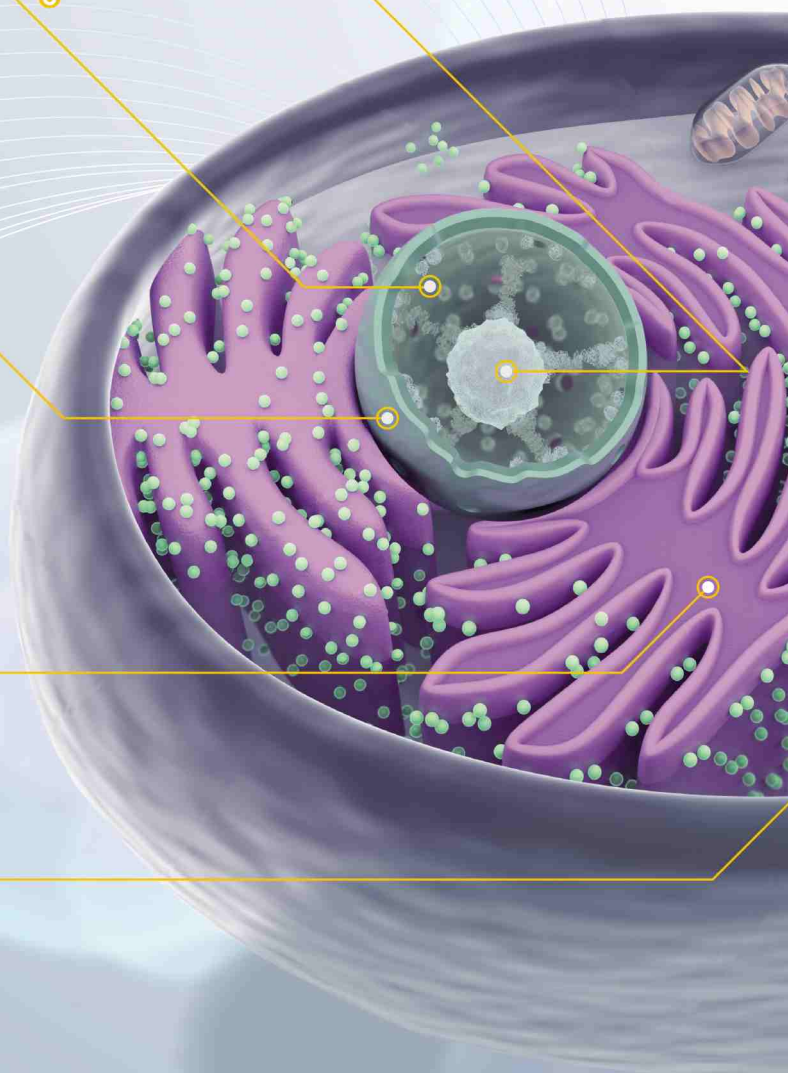


GRP94 antibody (GTX103232)   

Actin

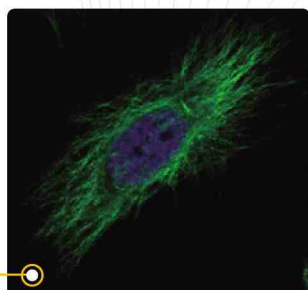


beta Actin antibody (GTX100315) 





Microtubules



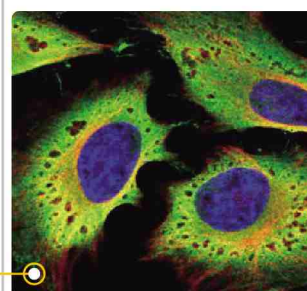
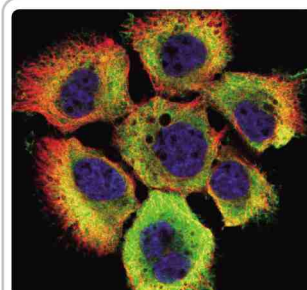
alpha Tubulin antibody
(GTX102078)

Endosome



EEA1 antibody [C3],C-term
(GTX109638)

Cytoplasm



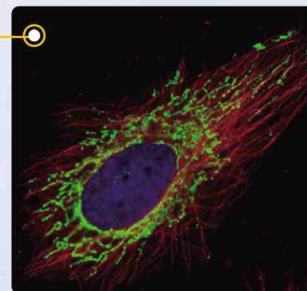
HSP70 1A antibody
(GTX111088)
GAPDH antibody
(GTX100118)

Golgi Apparatus



GOLGA5 antibody [N2C2],
Internal (GTX104255)

Mitochondria



COX4 antibody (GTX101499)

Organelle Markers

CNS Cell Markers



- GFAP
- S100 β
- AQP4
- IGFBP3
- ALDH1L1
- Glutamine synthetase
- Aldolase
- Coronin

Astrocytes

- OLIG1
- OLIG2
- MBP
- MOG
- MAG
- GALC
- CNP

Oligodendrocytes

- CD11b
- IBA1
- CX3CR1
- CD45
- CD68
- F4/80
- HLA-DR
- C1qA
- iNOS

Microglia

Neural Progenitor Cells

- BRG1
- Musashi-1
- Musashi-2
- Nestin
- N-Cadherin
- PAX3
- PAX6
- SOX1
- SOX2
- OTX2
- CASPR
- ASCL1

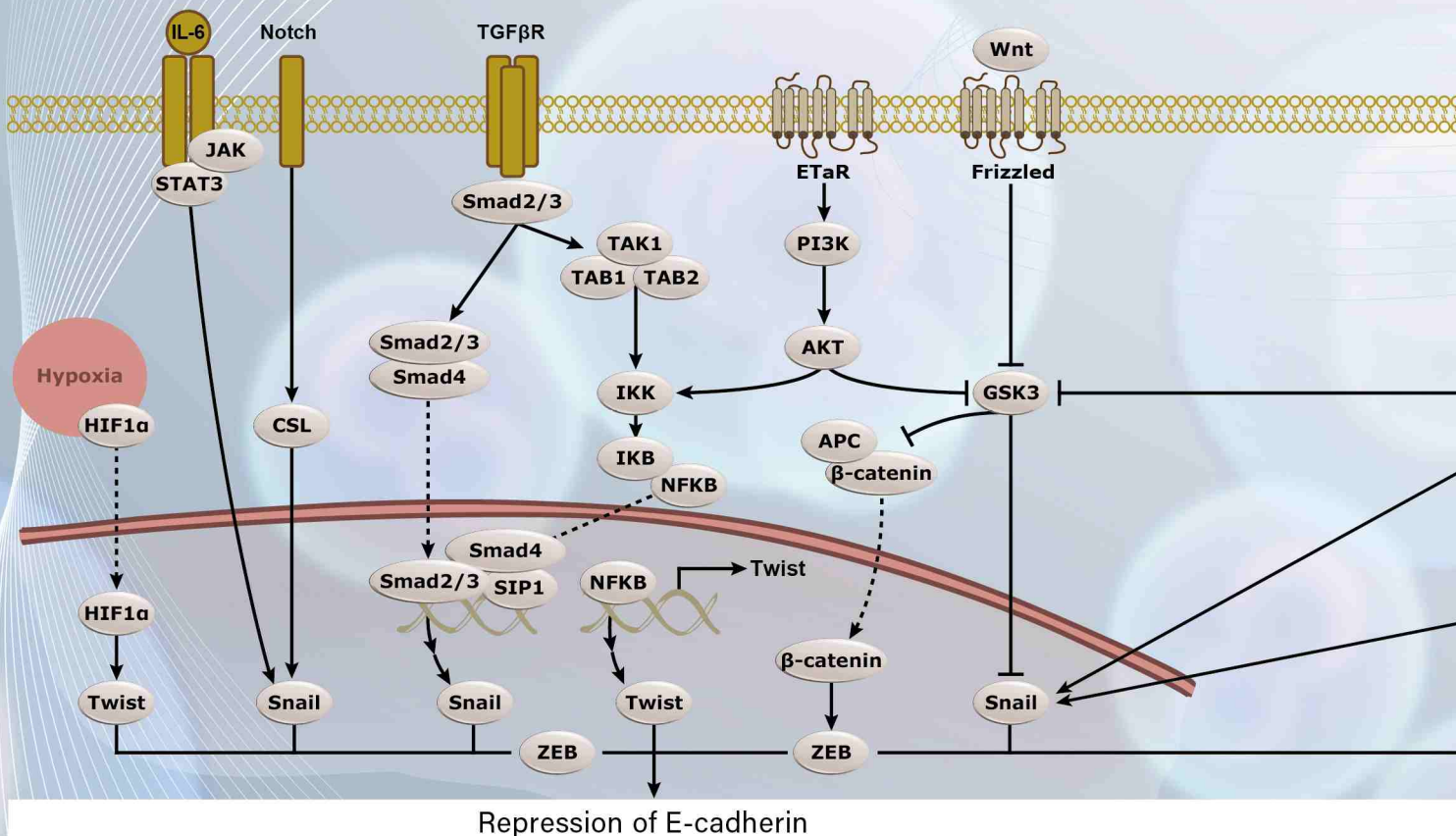
Immature Neurons

- DCX
- NeuroD1
- TBR1
- Stathmin
- NCAM
- NSE
- NeuN
- Neurites
- Synapses
- Growth cones
- Tuj1
- MAP2
- Tau
- Neurofilament H/M/L
- alpha-Internexin
- Synaptophysin
- PSD95
- GAP43
- Nrp1

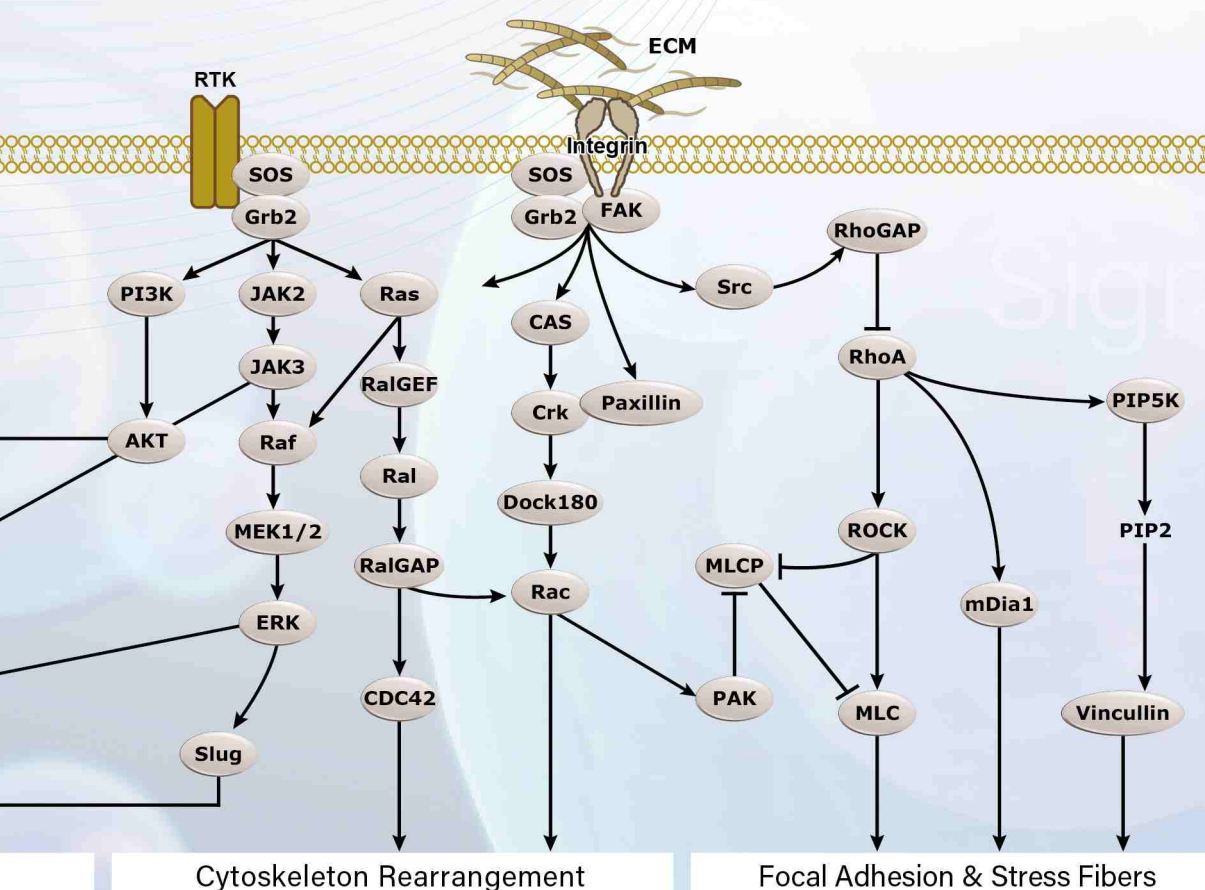
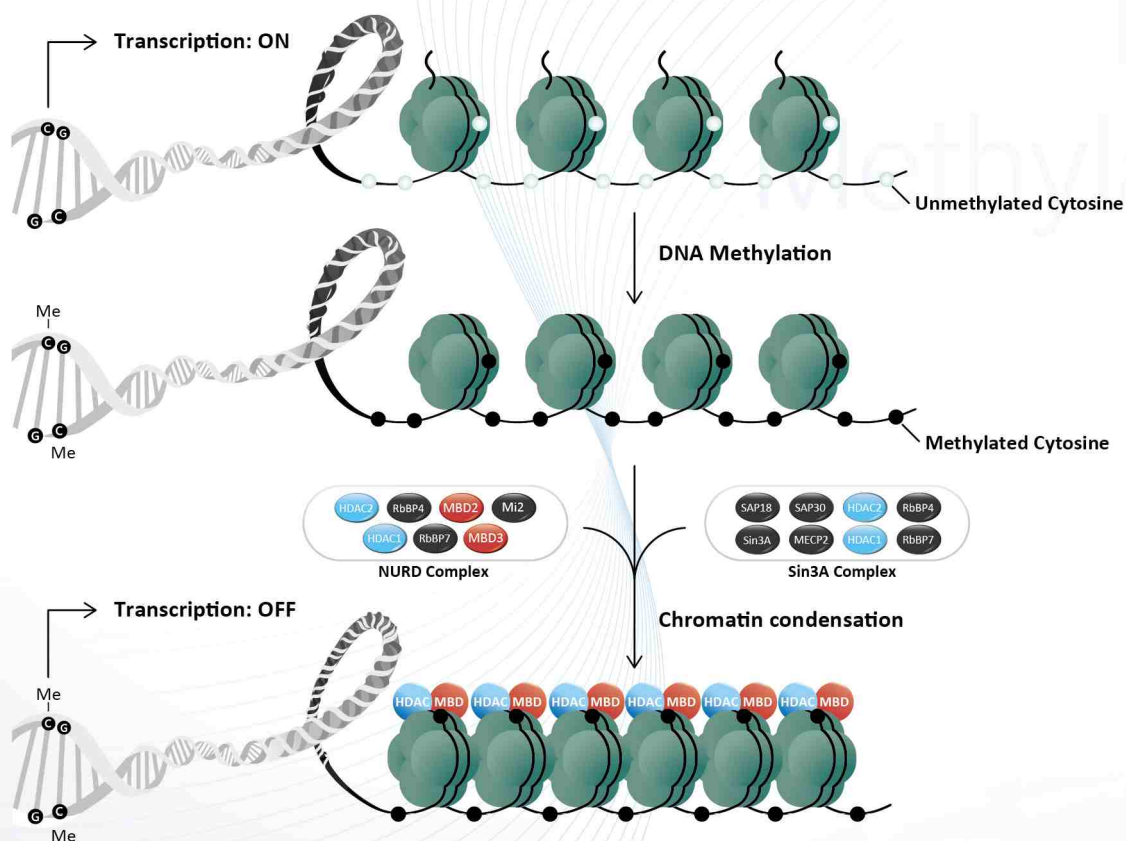
Mature Neurons

- Cholinergic
- Dopaminergic
- GABAergic
- Glutamatergic
- Serotonergic
- Chat
- AchE
- VACHT
- TH
- DBH
- DAT
- NET
- Girk2
- Nurr1
- Lmx1b
- FoxA2
- Darpp-32
- GABA
- GABA_A receptor alpha
- GABA_A receptor beta
- GABA receptor
- GAD65
- GAD67
- VGAT
- Glutaminase
- Glutaminase C
- Glutaminase synthetase
- vGluT1
- vGluT2
- NMDAR1
- NMDAR2A
- NMDAR2B
- Serotonin(5-HT)
- Serotonin transporter(5-HT)
- TPH

Epithelial-Mesenchymal Transition

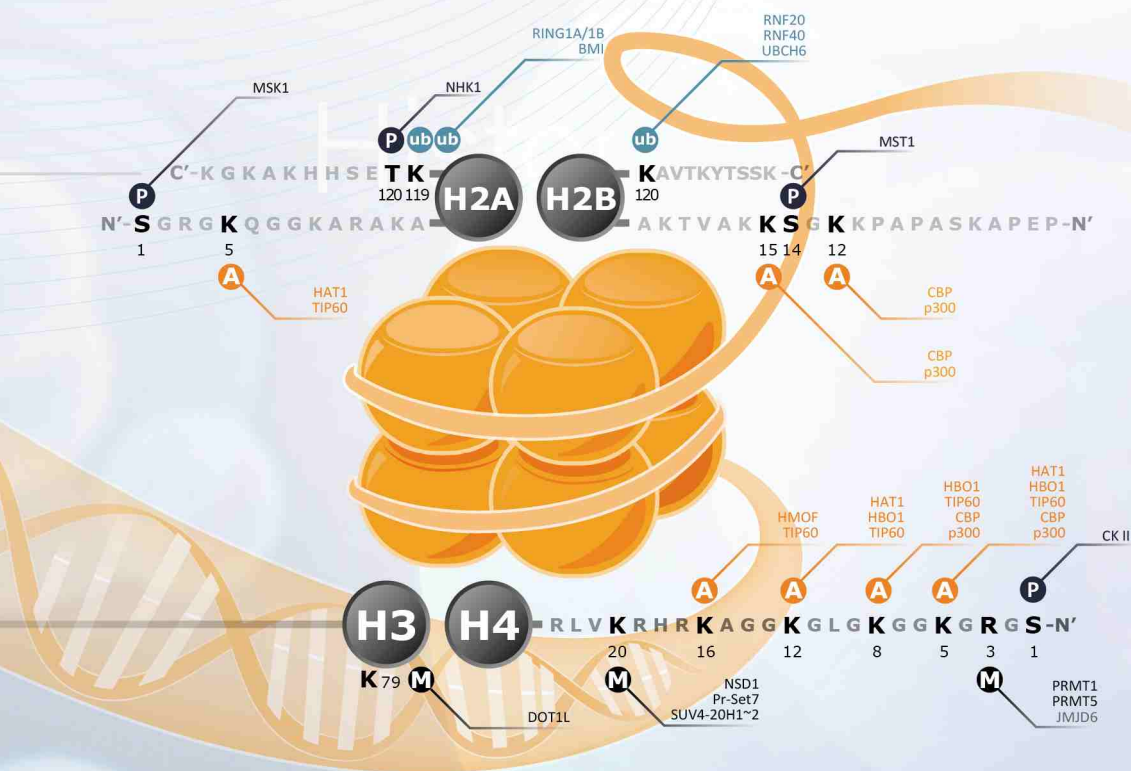
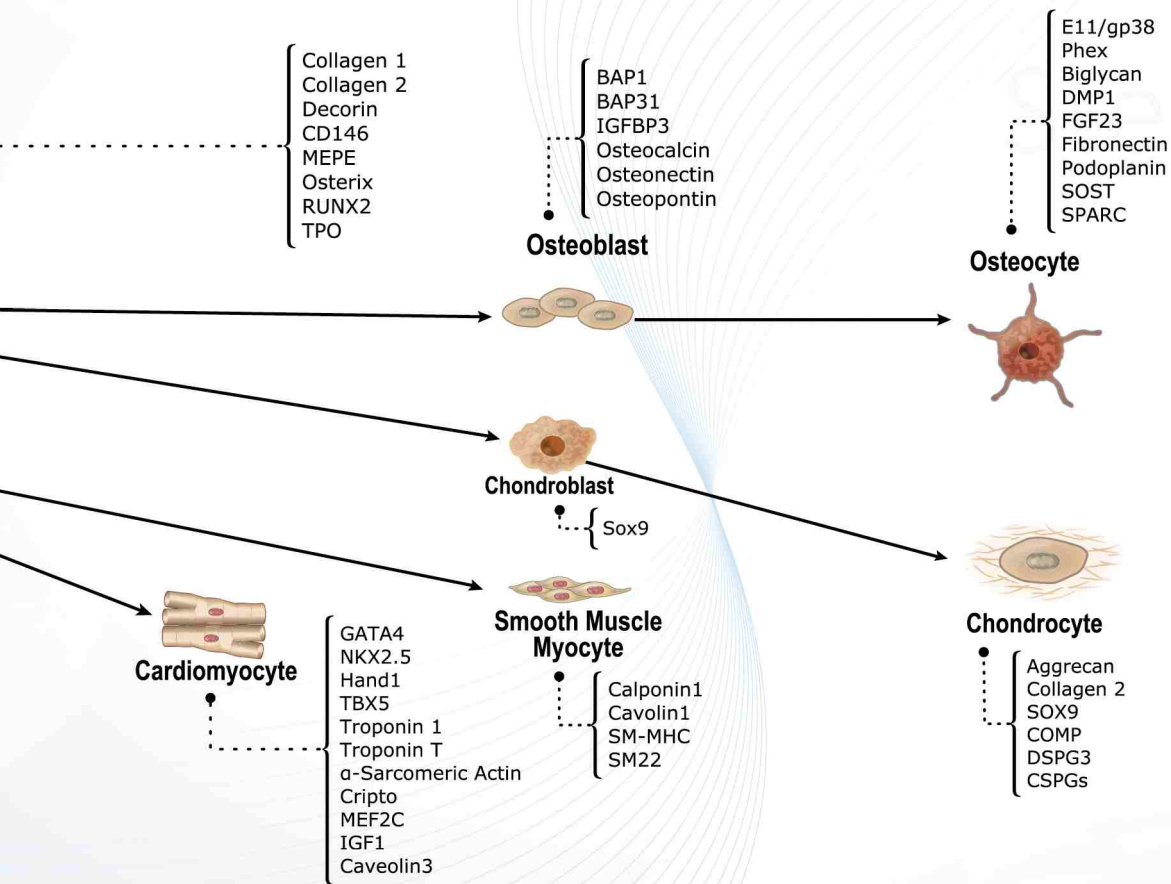


DNA Methylation

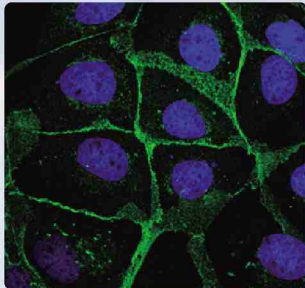


A diagram of a cell with a large nucleus containing a nucleolus.

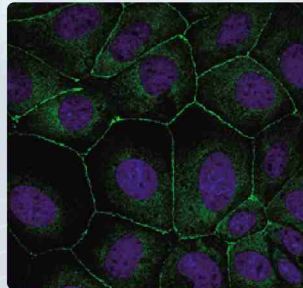




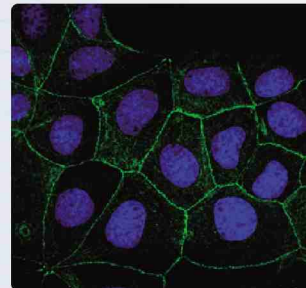
VetSignal™ Antibodies for Veterinary Research



beta Catenin antibody -
VetSignal™ (GTX34941)



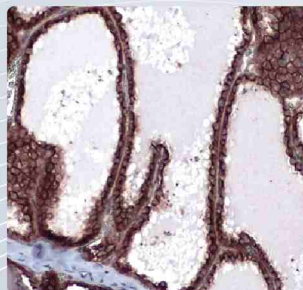
ZO-1 antibody - VetSignal™
(GTX135089)



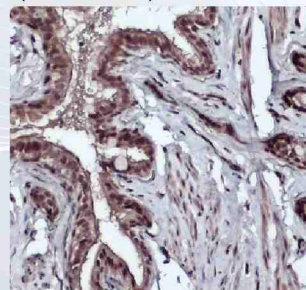
Home Integrin beta 1 / CD29
antibody - VetSignal™
(GTX135099)



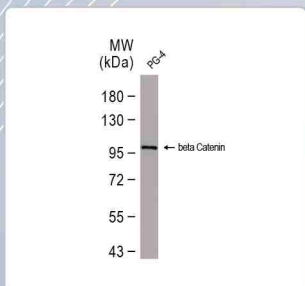
Cytokeratin 18 antibody -
VetSignal™ (GTX134973)



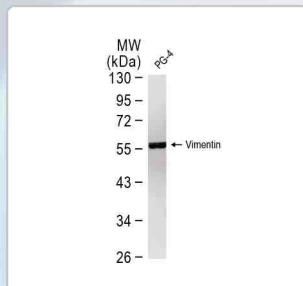
Cytokeratin 19 antibody -
VetSignal™ (GTX134976)



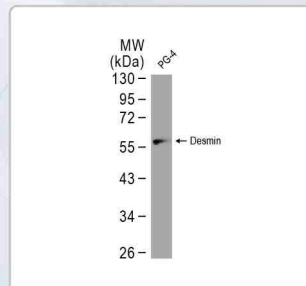
Bmi1 antibody - VetSignal™
(GTX134944)



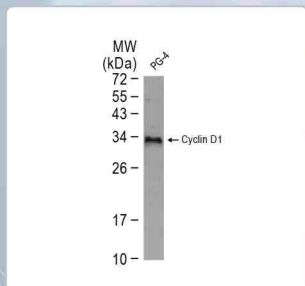
beta Catenin antibody -
VetSignal™ (GTX134938)



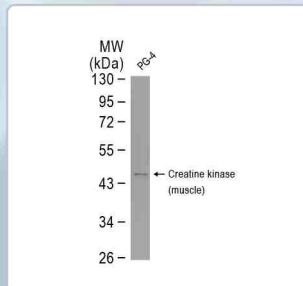
Vimentin antibody [GT7812]
- VetSignal™ (GTX635085)



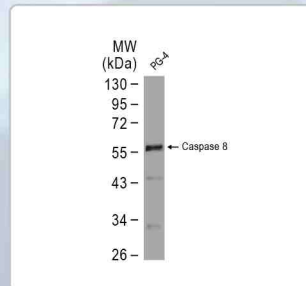
Desmin antibody -
VetSignal™ (GTX134990)



Cyclin D1 antibody -
VetSignal™ (GTX134959)



Creatine kinase (muscle)
antibody - VetSignal™
(GTX134955)



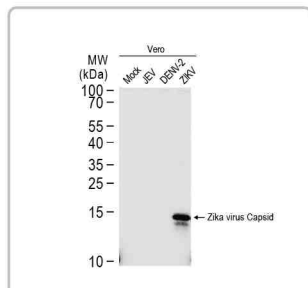
Caspase 8 antibody -
VetSignal™ (GTX134950)

VetSignal™ - Antibodies for Veterinary Research

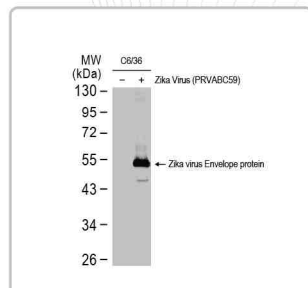
Infectious Diseases



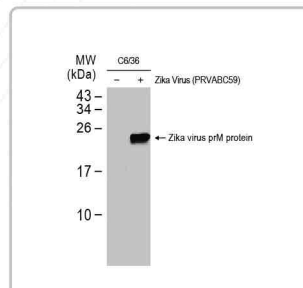
Citation Support Orthogonal Validation



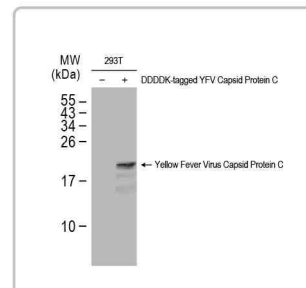
Zika virus Capsid protein antibody (GTx133317)



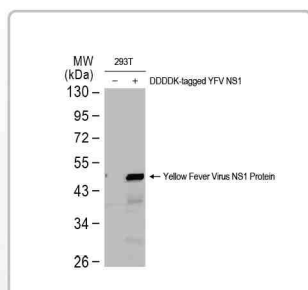
Zika virus Envelope protein antibody (GTx133314)



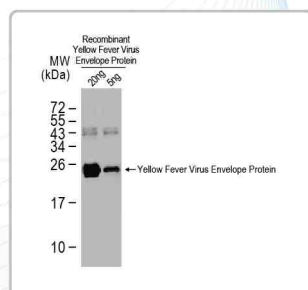
Zika virus prM protein antibody (GTx133305)



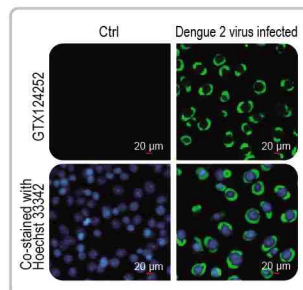
Yellow Fever Virus Capsid Protein C antibody (GTx134022)



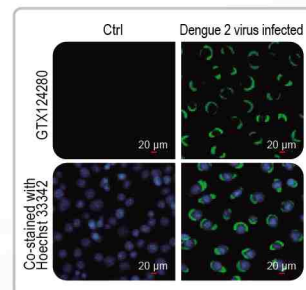
Yellow Fever Virus NS1 Protein antibody (GTx134025)



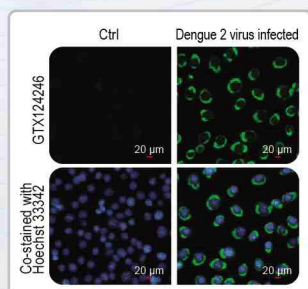
Yellow Fever Virus Envelope Protein antibody (GTx134024)



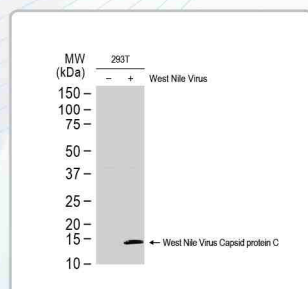
Dengue virus NS3 protein antibody (GTx124252)



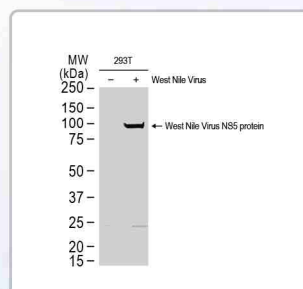
Dengue virus NS1 protein antibody (GTx124280)



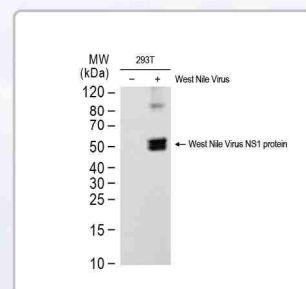
Dengue virus NS2B protein antibody (GTx124246)



West Nile virus Capsid protein C antibody (GTx131947)



West Nile virus NS5 protein antibody (GTx131961)



West Nile virus NS1 protein antibody (GTx132053)

Infectious Disease



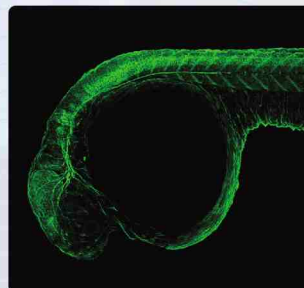
Citation Support
 KO/KD Validation
 Comparable Abs
 Orthogonal Validation
 Protein Overexpression



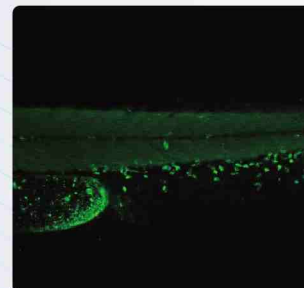
Pax2a antibody
(GTX128127)



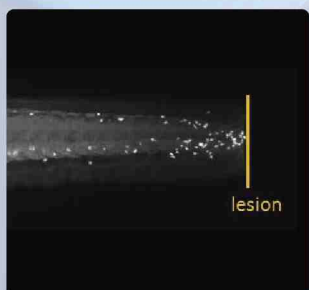
HuC/D antibody
(GTX128365)



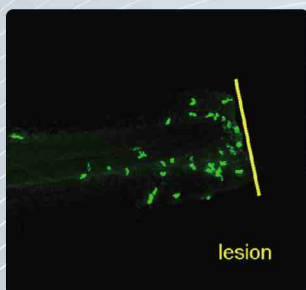
Gfap antibody
(GTX128741)



Lcp1 antibody
(GTX124420)



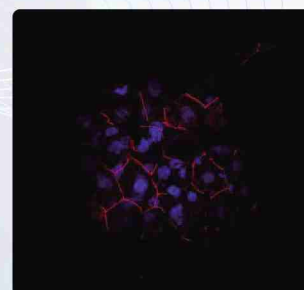
Mpx antibody (GTX128379)



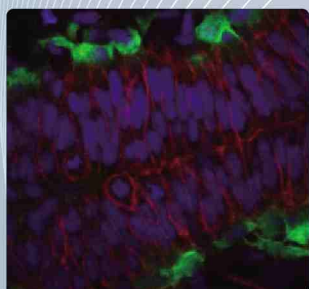
Lyz antibody
(GTX132379)



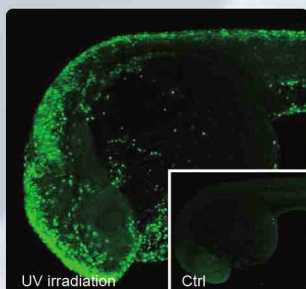
Sox2 antibody
(GTX124477)



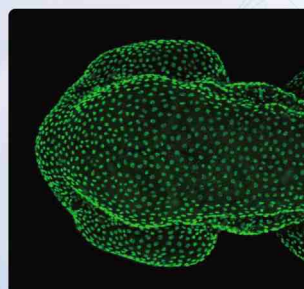
Cdh1 antibody
(GTX125890)



Cdh2 antibody
(GTX125885)



Histone H2A.XS139ph
(pSer139) antibody
(GTX127342)



Tp63 antibody
(GTX124660)



PcnA antibody
(GTX124496)



About GeneTex

Established in 1997 by a group of renowned scientists, GeneTex's corporate mission remains clear:

“ We strive to serve and accelerate life science research by creating essential biomedical reagents where quality can be found in every vial.”

Our commitment, to provide our customers with dependable reagents and to drive life science research, reflects the philosophy and approach we employ when we manufacture our products. Through extensive study, development, and stringent testing, we have produced and validated a comprehensive collection of antibodies and research tools that researchers use every day to expand the limits of biomedical knowledge.

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