abcam

ab221145

Anti-Neuropeptide Y antibody [EPR21877]

Recombinant | RabMAb | Advanced Validation | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR21877
Purification technique	Affinity purification Protein A
Concentration	0.558 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

mIHC

Tested

Species	Human
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/2000
Notes	-

Species	Rat
Dilution info	1/2000
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/2000
Notes	1:2000 dilution recommended for human, mouse and rat species. 1:10000 dilution recommended for mouse adrenal gland tissue. Perform antigen retrieval with universal HIER antigen retrieval reagent (10X) (ab208572).

Species	Rat
Dilution info	1/2000
Notes	1:2000 dilution recommended for human, mouse and rat species. 1:10000 dilution recommended for mouse adrenal gland tissue. Perform antigen retrieval with universal HIER antigen retrieval reagent (10X) (ab208572).

Species	Human
Dilution info	1/2000
Notes	1:2000 dilution recommended for human, mouse and rat species. 1:10000 dilution recommended for mouse adrenal gland tissue. Perform antigen retrieval with universal HIER antigen retrieval reagent (10X) (ab208572).

IHC-Fr

Tested

Species	Mouse
Dilution info	1/100 - 1/500

Notes	-

Species	Rat
Dilution info	1/100 - 1/500
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	1/500
Notes	-

Not recommended

Species	Human, Mouse
Dilution info	-
Notes	-

Target data

See full target information NPY

Function	NPY is implicated in the control of feeding and in secretion of gonadotrophin-release hormone.

Storage

Shipped at conditions	Conditional Ambient

Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Neuropeptide Y (NPY) a 36 amino acid peptide functions mechanically as a neurotransmitter in the central and peripheral nervous systems. Alternate names include porcine peptide YY. The molecular weight of Neuropeptide Y is approximately 4 kDa. It expresses primarily in regions of the brain such as the hypothalamus and sympathetic nervous system as well as in other tissues including the heart adrenal glands and white adipose tissue.
Biological function summary	Neuropeptide Y plays an important role in regulating various physiological processes. It is not typically part of a complex but acts directly on specific receptors mainly Y1 Y2 Y4 and Y5. Neuropeptide Y affects food intake behavior stress response circadian rhythm and cardiovascular regulation. It does so by modulating the release of other neurotransmitters or hormones having a significant impact on energy balance and homeostasis.
Pathways	Neuropeptide Y plays a pivotal role in neurobiological signaling pathways especially those involving stress and energy homeostasis. In the hypothalamus NPY influences energy balance by interacting with the melanocortin pathway an

	important modulator of appetite and energy expenditure. It also interacts with proteins such as pro-opiomelanocortin (POMC) in these signaling pathways highlighting its integration into complex physiological processes that maintain homeostasis.
Associated diseases and disorders	Neuropeptide Y shows a significant connection to metabolic disorders and stress-related conditions. Dysregulation of NPY signaling has been implicated in obesity given its role in promoting food intake and energy storage. Additionally altered Neuropeptide Y activity links to anxiety and depression diseases involving stress-response dysregulation. Proteins like leptin which interacts with NPY in pathways governing hunger and energy allocation provide another layer of regulation affecting these conditions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

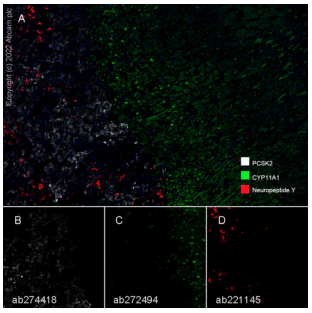
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

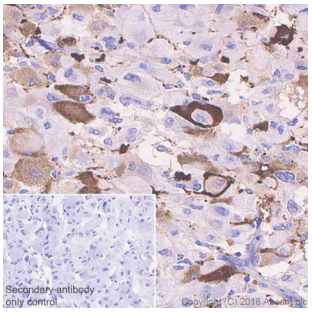
Full details and terms and conditions can be found here:
Terms & Conditions.

11 product images



Multiplex immunohistochemistry - Anti-Neuropeptide Y antibody [EPR21877] (ab221145)

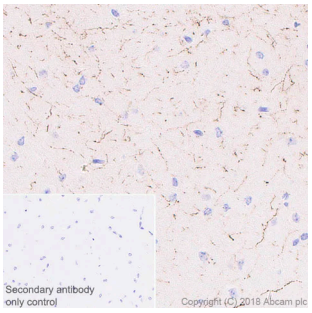
Fluorescence multiplex immunohistochemical analysis of human adrenal gland (formalin-fixed paraffin-embedded section). Panel A shows merged staining of anti-PCSK2 stained on adrenal medulla (ab274418; gray; Opal™690) at 1:2000 (0.263 µg/ml) [Panel B], anti-CYP11A1 stained on adrenal cortex (ab272494; green; Opal™520) at 1:10000 (0.053 µg/ml) [Panel C], and anti-Neuropeptide Y stained on chromaffin cells (ab221145; red; Opal™570) at 1:2000 (0.279 µg/ml) [Panel D] on human adrenal gland. DAPI was used as a nuclear counter stain. Followed by Opal Polymer HRP Ms + Rb secondary antibody. The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope. The section was incubated in three rounds of staining: in the order of ab274418, ab272494, and ab221145 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins was used.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neuropeptide Y antibody [EPR21877] (ab221145)

Neuropeptide Y Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Neuropeptide Y antibody

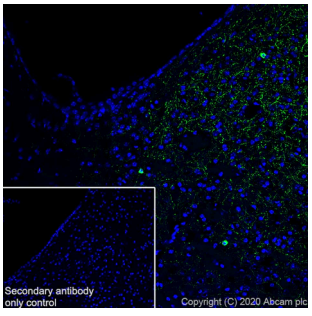
Immunohistochemical analysis of paraffin-embedded human pheochromocytoma tissue labeling Neuropeptide Y with ab221145 at 1/2000 dilution, followed by Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) ready to use. Cytoplasmic staining in human pheochromocytoma (PMID: 15623622) is obserevd. Counterstained with hematoxylin. Universal HIER antigen retrieval reagent (10X) (ab208572) was used for the antigen retreival.
Secondary antibody only control: used PBS instead of primary antibody, secondary antibody is Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neuropeptide Y antibody [EPR21877] (ab221145)

Neuropeptide Y Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Neuropeptide Y antibody

Immunohistochemical analysis of paraffin-embedded mouse cerebrum tissue labeling Neuropeptide Y with ab221145 at 1/2000 dilution, followed by Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) ready to use. Positive staining on mouse cerebrum (PMID: 26444585) is observed. Counterstained with hematoxylin. Universal HIER antigen retrieval reagent (10X) (ab208572) was used for the antigen retrieval.
Secondary antibody only control: used PBS instead of primary antibody, secondary antibody is Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).



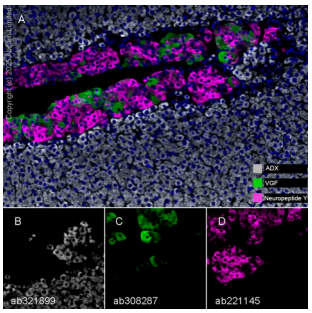
Immunohistochemistry (Frozen sections) - Anti-Neuropeptide Y antibody [EPR21877] (ab221145)

Neuropeptide Y Immunohistochemistry (Frozen sections) staining using rabbit Anti-Neuropeptide Y antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse cerebrum tissue labeling Neuropeptide Y with ab221145 at 1/500 dilution followed by ab150077

Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 (2 ug/ml) dilution (Green). Positive staining on mouse cerebrum. is observed. The nuclear counterstain was DAPI (Blue).
Secondary antibody control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1000 (2 ug/ml) dilution.

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).



Multiplex immunohistochemistry - Anti-Neuropeptide Y antibody [EPR21877] (ab221145)

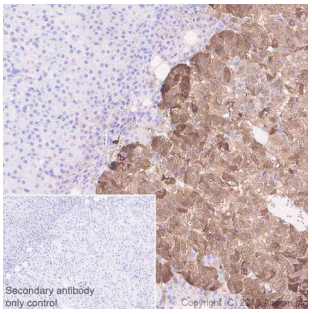
Neuropeptide Y Multiplex immunohistochemistry staining of Mouse adrenal gland using rabbit Anti-Neuropeptide Y antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded Mouse adrenal gland staining of ADX with ab321899 at a 1/2000 (0.244 µg/ml) dilution, VGF with ab308287 at 1/500 (0.95 µg/ml) dilution and Neuropeptide Y with ab221145 at 1/4000 (0.140 µg/ml) dilution.

Panel A: merged staining of anti-ADX (gray; Opal™690), anti-VGF (green; Opal™520) and anti-Neuropeptide Y (magenta; Opal™570) on mouse adrenal gland.
Panel B: anti-ADX staining adrenal cortex in mouse adrenal gland.
Panel C: anti-VGF staining endocrine cells in mouse adrenal gland medulla.
Panel D: nti-Neuropeptide Y staining chromaffin cells in mouse adrenal gland medulla.
Nuclear DNA was labelled with DAPI (shown in blue).).

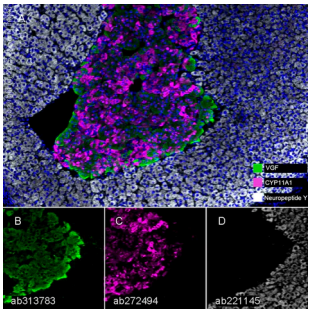
The section was incubated in three rounds of staining: in the order of ab321899, ab308287 and ab221145 for 30 mins at room temperature.. Each round was followed by a separate fluorescent tyramide signal amplification system.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0 epitope retrieval solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neuropeptide Y antibody [EPR21877] (ab221145)

Immunohistochemical analysis of paraffin-embedded mouse adrenal gland tissue labeling Neuropeptide Y with ab221145 at 1/1000 dilution, followed by Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) ready to use. Positive staining on chromaffin cells of mouse adrenal gland medulla (PMID: 26444585) is observed. Counterstained with hematoxylin. Universal HIER antigen retrieval reagent (10X) (ab208572) was used for the antigen retrieval.
Secondary antibody only control: used PBS instead of primary antibody, secondary antibody is Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).



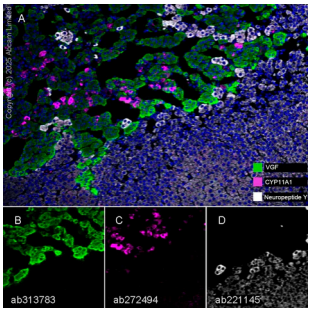
Multiplex immunohistochemistry - Anti-Neuropeptide Y antibody [EPR21877] (ab221145)

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded Mouse adrenal gland staining of VGF with ab313783 at a 1/500 (0.96 µg/ml) dilution, CYP11A1 with ab272494 at a 1/10000 (0.053 µg/ml) dilution and Neuropeptide Y with ab221145 at a 1/4000 (0.140 µg/ml) dilution followed by a ready to use secondary antibody Opal Polymer HRP Ms + Rb.
Panel A: merged staining of anti-VGF (green; Opal™690), anti-CYP11A1 (magenta; Opal™520) and anti-Neuropeptide Y (gray; Opal™570) on mouse adrenal gland.
Panel B: anti-VGF staining endocrine cells in mouse adrenal gland medulla.
Panel C: anti-CYP11A1 staining adrenal cortex in mouse adrenal gland.

Panel D: anti-Neuropeptide Y staining endocrine cells in mouse adrenal gland medulla. Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab313783, ab272494 and ab221145 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

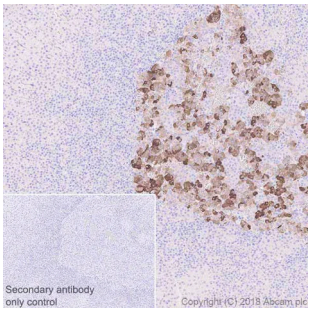


Multiplex immunohistochemistry - Anti-Neuropeptide Y antibody [EPR21877] (ab221145)

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded Rat adrenal gland staining of VGF with ab313783 at a 1/500 (0.96 µg/ml) dilution, CYP11A1 with ab272494 at a 1/10000 (0.053 µg/ml) dilution and Neuropeptide Y with ab221145 at a 1/4000 (0.140 µg/ml) dilution followed by a ready to use secondary antibody Opal Polymer HRP Ms + Rb.
Panel A: merged staining of anti-VGF (green; Opal™690), anti-CYP11A1 (magenta; Opal™520) and anti-Neuropeptide Y (gray; Opal™570) on rat adrenal gland.
Panel B: anti-VGF staining endocrine cells in rat adrenal gland medulla.
Panel C: anti-CYP11A1 staining adrenal cortex in rat adrenal gland.
Panel D: anti-Neuropeptide Y staining chromaffin cellsa in rat adrenal gland medulla.
Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab313783, ab272494 and ab221145 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

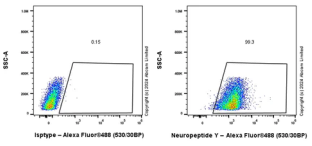
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Neuropeptide Y antibody [EPR21877] (ab221145)

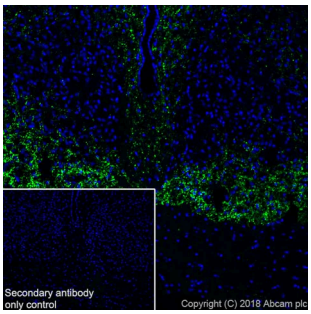
Neuropeptide Y Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Neuropeptide Y antibody

Immunohistochemical analysis of paraffin-embedded rat adrenal gland tissue labeling Neuropeptide Y with ab221145 at 1/2000 dilution, followed by Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) ready to use. Cytoplasmic staining in chromaffin cells of rat adrenal gland medulla (PMID: 15623622) is observed. Counterstained with hematoxylin. Universal HIER antigen retrieval reagent (10X) (ab208572) was used for the antigen retrieval.
Secondary antibody only control: used PBS instead of primary antibody, secondary antibody is Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).



Flow Cytometry - Anti-Neuropeptide Y antibody [EPR21877] (ab221145)

Flow Cytometry analysis of Rat primary neural/glia cell labeling Neuropeptide Y with ab221145 at 1/500 dilution followed by ab150081 at 1/5000 dilution. Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Isotype control- Rabbit monoclonal IgG (ab172730) / Left.



Immunohistochemistry (Frozen sections) - Anti-Neuropeptide Y antibody [EPR21877] (ab221145)

Neuropeptide Y Immunohistochemistry (Frozen sections) staining using rabbit Anti-Neuropeptide Y antibody

Immunohistochemical analysis of 4% paraformaldehyde-fixed, 0.2% Triton X-100 permeabilized rat cerebrum tisssue labeling Neuropeptide Y with ab221145 at 1/100 dilution, followed by AlexaFluor®488 Goat anti-Rabbit secondary (ab150077) at 1/1000 dilution. Positive staining in hypothalamic paraventricular nucleus of rat cerebrum (PMID: 19357287) is observed. Counterstained with DAPI (Nuclear).
Perform heat mediated antigen retrieval with sodium citrate buffer (10 mM citrate pH 6.0 + 0.05% Tween-20).
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is AlexaFluor®488 Goat anti-Rabbit secondary (ab150077) at 1/1000 dilution.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.