

# Product Datasheet

## GABA-A R gamma 2 Antibody - Azide Free NB300-190

Unit Size: 0.1 ml

Store at -20C. Avoid freeze-thaw cycles.

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Updated 2/21/2025 v.20.1

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**NB300-190**

GABA-A R gamma 2 Antibody - Azide Free

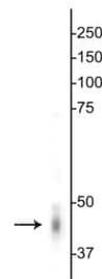
Product Information	
Unit Size	0.1 ml
Concentration	Please see the vial label for concentration. If unlisted please contact technical services.
Storage	Store at -20C. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	No Preservative
Isotype	IgG
Purity	Antigen Affinity-purified
Buffer	10mM HEPES (pH 7.5), 0.15M NaCl, 0.1 mg/ml BSA and 50% Glycerol
Target Molecular Weight	46 kDa

Product Description	
Host	Rabbit
Gene ID	2566
Gene Symbol	GABRG2
Species	Human, Mouse, Rat
Reactivity Notes	Mouse reactivity reported in scientific literature (PMID:32732906). Mouse reactivity reported in scientific literature (PMID: 23922756). Human reactivity reported in scientific literature (PMID: 24668190).
Specificity/Sensitivity	Specific for endogenous levels of the ~46 kDa gamma 2-subunit of the GABAA receptor.
Immunogen	Fusion protein from the cytoplasmic loop of the gamma 2 subunit. Accession # P18508

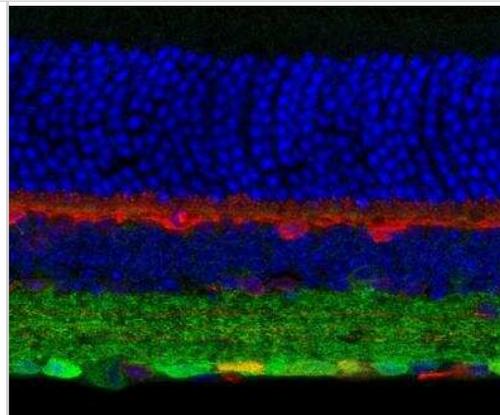
Product Application Details	
Applications	Western Blot, Immunohistochemistry, Knockdown Validated
Recommended Dilutions	Western Blot 1:1000, Immunohistochemistry 1:100, Knockdown Validated
Application Notes	Use in Immunohistochemistry reported in scientific literature (PMID 25716832). Knockdown validation (PMID: 31747610).

**Images**

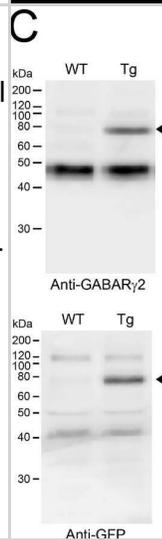
Western Blot: GABA-A R gamma 2 Antibody [NB300-190] - Mouse whole brain lysate showing specific immunolabeling of the ~46 kDa gamma-2-subunit of GABA<sub>A</sub> -R.



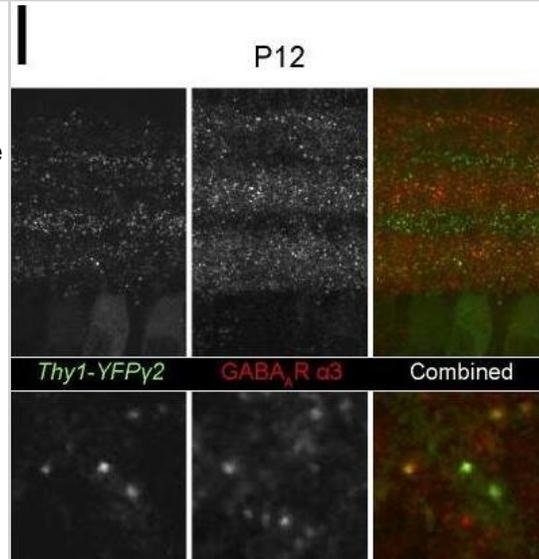
Immunohistochemistry: GABA-A R gamma 2 Antibody [NB300-190] - Immunostaining of mouse retina showing specific labeling of the GABA $\alpha$  gamma-2 subunit in green, calbindin in red and DNA in blue. Photo courtesy of Dr. Arlene Hirano, UCLA.



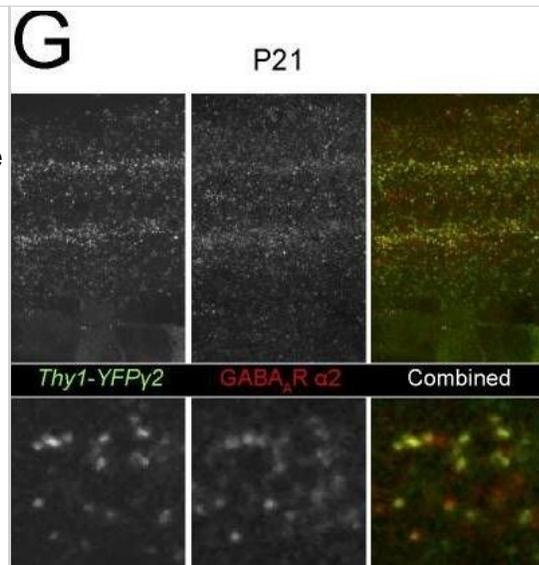
Western Blot: GABA-A R gamma 2 Antibody [NB300-190] - Pattern of YFP $\gamma$ 2 expression in retinas of Thy1-YFP $\gamma$ 2 transgenic mice. (A) Maximum intensity projections (MIP) of confocal image stacks (2  $\mu$ m total thickness) of vertical slices of Thy1-YFP $\gamma$ 2 retinas at postnatal day (P)12 & P21. Diffuse fluorescence expression in cell bodies within the ganglion cell layer (GCL) at both ages, & punctate expression throughout both OFF & ON layers of the inner plexiform layer (IPL) are apparent. There was no expression in the outer plexiform layer (OPL) or the outer nuclear layer (ONL) at either age. (B) Images of MIPs (20  $\mu$ m thick) at various depths of a P21 flat mount Thy1-YFP $\gamma$ 2 retina. Inserts are 3 $\times$  magnification of the images. (C) Western blot of whole brain lysates from Thy1-YFP $\gamma$ 2 (Tg) & wildtype (WT) mice. YFP $\gamma$ 2 (arrowhead) was detected with anti-GABAAR $\gamma$ 2 (upper) & anti-GFP (lower). Image collected & cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0069612>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



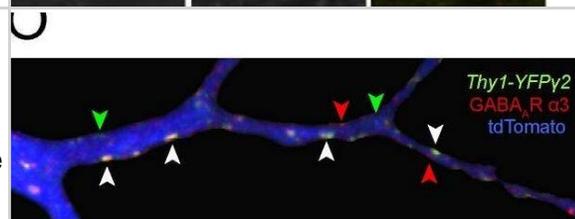
Immunocytochemistry/ Immunofluorescence: GABA-A R gamma 2 Antibody [NB300-190] - YFP $\gamma$ 2 fluorescence correlates with immunostaining for GABAAR  $\alpha$  subunits. Cross-correlation analysis of vertical sections from P12 & P21 Thy1-YFP $\gamma$ 2 retinas stained with anti-GABAAR  $\alpha$ 1 (A–D), GABAAR  $\alpha$ 2 (E–H), or GABAAR  $\alpha$ 3 (I–L). (M) Image stack of a single ON RGC labeled by transfection of CMV:tdTomato in a Thy1-YFP $\gamma$ 2 retina, immunostained for GABAAR  $\alpha$ 3. (N) The dendritic label was used to mask out the YFP $\gamma$ 2 & GABAAR  $\alpha$ 3 fluorescence. (O) (Upper) YFP $\gamma$ 2 & GABAAR  $\alpha$ 3 puncta within sections of dendritic arbors identified by custom-written software. (Lower) Fraction of the population of YFP $\gamma$ 2 puncta that colocalized with GABAAR  $\alpha$ 3, & vice-versa (average & SEM of 4 cells). White arrowheads are examples of colocalized puncta, green & red arrowheads, non-colocalized puncta. Scale bars 5  $\mu$ m. Image collected & cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0069612>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



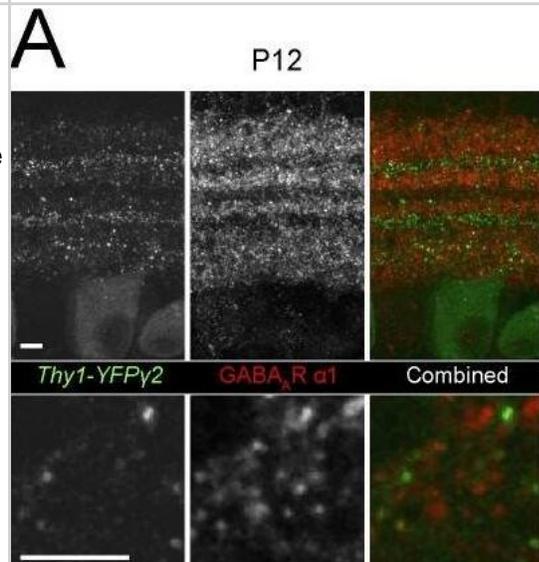
Immunocytochemistry/ Immunofluorescence: GABA-A R gamma 2 Antibody [NB300-190] - YFPy2 fluorescence correlates with immunostaining for GABAAR  $\alpha$  subunits. Cross-correlation analysis of vertical sections from P12 & P21 Thy1-YFPy2 retinas stained with anti-GABAAR  $\alpha$ 1 (A–D), GABAAR  $\alpha$ 2 (E–H), or GABAAR  $\alpha$ 3 (I–L). (M) Image stack of a single ON RGC labeled by transfection of CMV:tdTomato in a Thy1-YFPy2 retina, immunostained for GABAAR  $\alpha$ 3. (N) The dendritic label was used to mask out the YFPy2 & GABAAR  $\alpha$ 3 fluorescence. (O) (Upper) YFPy2 & GABAAR  $\alpha$ 3 puncta within sections of dendritic arbors identified by custom-written software. (Lower) Fraction of the population of YFPy2 puncta that colocalized with GABAAR  $\alpha$ 3, & vice-versa (average & SEM of 4 cells). White arrowheads are examples of colocalized puncta, green & red arrowheads, non-colocalized puncta. Scale bars 5  $\mu$ m. Image collected & cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0069612>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



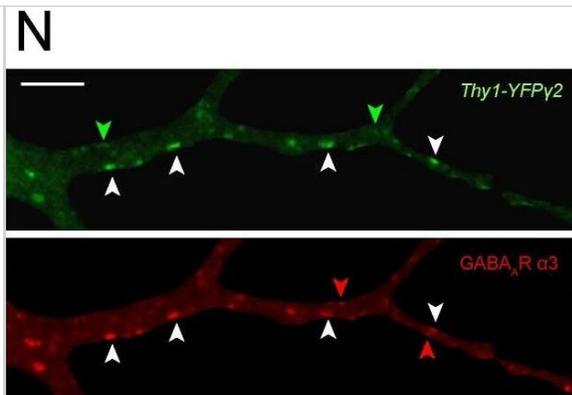
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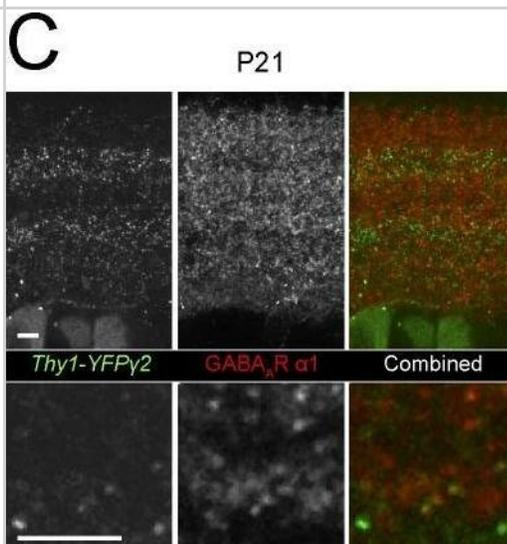
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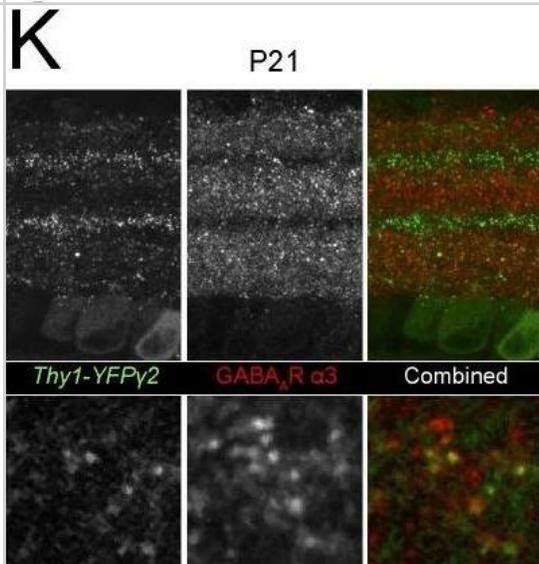
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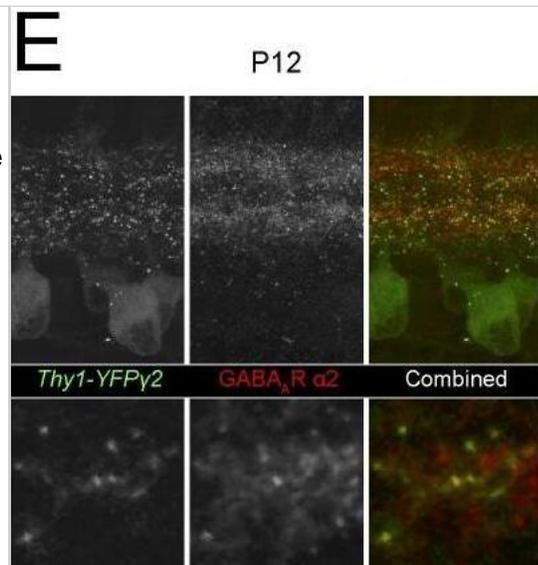
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## Publications

Chan ES, Ge Y, So YW et al. Allosteric potentiation of GABAA receptor single-channel conductance by netrin-1 during neuronal-excitation-induced inhibitory synaptic homeostasis *Cell reports* 2022-11-01 [PMID: 36323250] (WB, Mouse)

Janach G, BOhm M, DOhne N et al. Interferon-gamma enhances neocortical synaptic inhibition by promoting membrane association and phosphorylation of GABAA receptors in a protein kinase C-dependent manner *Brain, Behavior, and Immunity* 2022-01-01 [PMID: 34998939] (WB, Rat)

He Y, Cai X, Liu H Et Al. 5-HT recruits distinct neurocircuits to inhibit hunger-driven and non-hunger-driven feeding *Molecular psychiatry* 2021-07-21 [PMID: 34290371]

Kim ER, Xu Y, Cassidy RM et al. Paraventricular hypothalamus mediates diurnal rhythm of metabolism *Nat Commun* 2020-07-30 [PMID: 32732906] (IF/IHC, Mouse)

Shimell JJ, Shah BS, Cain SM et al. The X-Linked Intellectual Disability Gene *Zdhhc9* Is Essential for Dendrite Outgrowth and Inhibitory Synapse Formation *Cell Rep* 2019-11-19 [PMID: 31747610] (KD, Human, Mouse, Rat)

Dalby N, Leurs U, Falk-Petersen C et al. Kinase activity simultaneously determines the constitutive and the orthosteric gating in  $\alpha$ 4 $\beta$ 1/3 $\delta$  GABAA receptors in hippocampal granule cells *bioRxiv* 2018-05-09

Fan J, Li D, Chen HS et al. Metformin Produces Anxiolytic-like Effects in Rats by Facilitating GABAA Receptor Trafficking to Membrane. *Br. J. Pharmacol.* 2018-10-14 [PMID: 30318707] (WB, Rat)

Huang S, Hokenson K, Bandyopadhyay S et al. Brief Dark Exposure Reduces Tonic Inhibition in Visual Cortex. *J. Neurosci.* 2015-12-02 [PMID: 26631472] (WB, Mouse)

Johnson AC, Nagle KJ, Tremble SM, Cipolla MJ. The Contribution of Normal Pregnancy to Eclampsia. *PLoS ONE.* 2015-07-29 [PMID: 26218425] (WB, Rat)

Joshi S, Sun C, Kapur J. A mouse monoclonal antibody against the gamma2 subunit of GABAA receptors. *Hybridoma (Larchmt)* 2011-12-01 [PMID: 22149279]

Wu Z, Kim ER, Sun H et al. GABAergic projections from lateral hypothalamus to paraventricular hypothalamic nucleus promote feeding *J. Neurosci.* 2015-02-25 [PMID: 25716832] (IF/IHC, Mouse)

Fatemi SH, Reutiman TJ, Folsom TD et al. Downregulation of GABAA Receptor Protein Subunits  $\alpha$ 6,  $\beta$ 2,  $\delta$ ,  $\epsilon$ ,  $\gamma$ 2,  $\theta$ , and  $\rho$ 2 in Superior Frontal Cortex of Subjects with Autism. *J Autism Dev Disord* 2014-03-26 [PMID: 24668190] (WB, Human)

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Orders: nb-customerservice@bio-techne.com  
General: novus@novusbio.com

### Products Related to NB300-190

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HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control
210-TA-005	TNF-alpha [Unconjugated]

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### 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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