Product Datasheet

eIF2 alpha/EIF2S1 [p Ser51] Antibody (E90)
NB110-56949

Unit Size: 0.1 ml

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

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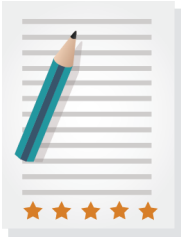

NB110-56949

eIF2 alpha/EIF2S1 [p Ser51] Antibody (E90)

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	Monoclonal
Clone	E90
Preservative	0.01% Sodium Azide
Isotype	IgG
Purity	Protein A or G purified
Buffer	59% PBS, 0.05% BSA and 40% Glycerol
Target Molecular Weight	36 kDa

Product Description	
Host	Rabbit
Gene ID	1965
Gene Symbol	EIF2S1
Species	Human, Mouse, Rat, Drosophila
Reactivity Notes	Reacts with: Fruit fly (Drosophila melanogaster), African Green Monkey, Neurospora crassa. Predicted to work with:Bovine, Pig.
Specificity/Sensitivity	The antibody only detects eIF-2a phosphorylated on Serine 51.
Immunogen	Synthetic peptide (the amino acid sequence is considered to be commercially sensitive) corresponding to Human EIF2S1 (phospho S51).
Notes	Produced using Abcam's RabMab® technology. RabMab® technology is covered by the following U.S. Patents, No. 5,675,063 and/or 7,429,487.

Product Application Details	
Applications	Western Blot, Dot Blot, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot 1:1000-10000, Flow Cytometry 1:10-1:1000, Immunohistochemistry 1:10-1:500, Immunocytochemistry/ Immunofluorescence 1:100-1:250, Immunohistochemistry-Paraffin 1:50-1:100, Dot Blot 1:100-1:2000

Publications

Farabaugh KT, Krokowski D, Guan BJ et al. PACT-mediated PKR activation acts as a hyperosmotic stress intensity sensor weakening osmoadaptation and enhancing inflammation Elife 2020-03-16 [PMID: 32175843]

Li SS, Jiang WL, Xiao WQ et al. KMT2D deficiency enhances the anti-cancer activity of L48H37 in pancreatic ductal adenocarcinoma World J Gastrointest Oncol 2019-08-15 [PMID: 31435462]

Stewart Claire, Estrada Andrea, Kim Paul et al. Regulation of IRE1a by the small molecule inhibitor 4u8c in hepatoma cells. Endoplasmic Reticulum Stress in Diseases 2017-01-01 [PMID: 29098149] (WB, Rat)

Krokowski D, Guan B, Wu J et al. GADD34 function in protein trafficking promotes adaptation to hyperosmotic stress in human corneal cells. Cell Rep 2017-12-05 [PMID: 29212034] (WB, Human)

Guan B, Krokowski D, Majumder M et al. Translational control during endoplasmic reticulum stress beyond phosphorylation of the translation initiation factor eIF2a. J Biol Chem 2014-05-02 [PMID: 24648524] (WB, Mouse)

Liu YQ, Jia MQ, Xie ZH et al. Arrestins contribute to amyloid beta-induced cell death via modulation of autophagy and the alpha7nAch receptor in SH-SY5Y cells. Sci Rep. 2017-06-13 [PMID: 28611418] (WB, Human)

Uppala JK, Gani AR, Ramaiah KVA. Chemical chaperone, TUDCA unlike PBA, mitigates protein aggregation efficiently and resists ER and non-ER stress induced HepG2 cell death. Sci Rep. 2017-06-19 [PMID: 28630443] (FLOW, WB, Human)

Krokowski D, Jobava R, Guan BJ et al. Coordinated regulation of the neutral amino acid transporter SNAT2 and the protein phosphatase subunit, GADD34, promotes adaptation to increased extracellular osmolarity. J Biol Chem 2015-06-03 [PMID: 26041779]

Rajesh K, Krishnamoorthy J, Kazimierczak U et al. Phosphorylation of the translation initiation factor eIF2alpha at serine 51 determines the cell fate decisions of Akt in response to oxidative stress Cell Death Dis. 2015-01-16 [PMID: 25590801] (WB, Human)

Rouschop KM, Dubois LJ, Keulers TG et al. PERK/eIF2alpha signaling protects therapy resistant hypoxic cells through induction of glutathione synthesis and protection against ROS Proc Natl Acad Sci U S A 2013-03-19 [PMID: 23471998] (IF/IHC, Mouse)

Sormani R, Delannoy E, Lageix S et al. Sublethal cadmium intoxication in Arabidopsis thaliana impacts translation at multiple levels. Plant Cell Physiol 2011-02-01 [PMID: 21252299] (WB)

Szmola R, Sahin-Toth M et al. Pancreatitis-associated chymotrypsinogen C (CTRC) mutant elicits endoplasmic reticulum stress in pancreatic acinar cells. Gut 2010-03-01 [PMID: 19951900] (WB)

More publications at http://www.novusbio.com/NB110-56949

Procedures

Immunohistochemistry Protocol for EIF2S1 Antibody (NB110-56949)
Immunohistochemistry Protocol for Paraffin-embedded Tissues

1. Solutions and reagents
1.1. Xylene
1.2. Ethanol, anhydrous denatured, histological grade (100%, 95%, 70%)
1.3. Washing buffer:
TBST washing buffer: 1XTBS/0.1% Tween-20
To prepare stock solution of 10X TBS: add 24.2 g Trizma base and 80 g sodium chloride to 1L of dH2O. Adjust pH to 7.6.
Working solution. 1XTBST/0.1% Tween-20: add 100ml 10XTBS to 900 ml dH2O. Add 1 ml Tween-20 and mix well.
1.4. Distilled water (dH2O)
1.5. Antigen Retrieval Solution:
0.01M Sodium Citrate Buffer, pH 6.0
To prepare stock solutions:
Solution A. 0.1 M citric acid solution: dissolve 21.0 g of citric acid, monohydrate (C6H8O7.H2O) in 1 liter of dH2O.
Solution B. 0.1M sodium citrate solution: dissolve 29.4 g trisodium citrate dihydrate (C6H5Na3O7.2H2O) in 1 liter of dH2O.
Working solution: Add 9 ml of Stock solution A and 41 ml of stock solution B to 450 ml of dH2O. Adjust pH to 6.0.
1.6. 3% Hydrogene Peroxide
1.7. Blocking buffer:
PBS (Dulbeccos Phosphate Buffered Salts, 1X, catalog #21-031-CV from Mediatech, Inc.) + 10% serum (serum origin depends on the host of the secondary antibody)
1.8. Hematoxylin QS (catalog #H-3404 from Vector Laboratories, Inc.)
1.9. Permanent Mounting medium (VectaMount, catalog# H-5000 Vector Laboratories, Inc.)

2. Protocol

2.1. Deparaffinization/Rehydration
2.1.1. Heat slides in an oven at 65C for 1 hour.
2.1.2. De-paraffinize/hydrate using the following series of washes: two Xylene washes (5 min each), followed by two 100% ethanol rinses (5 min each), followed by 95% ethanol, 70% ethanol, 50% ethanol, 30% ethanol, followed by H2O and a TBST wash for 5 min on a shaker.
2.2. Antigen Retrieval
2.2.1. Immerse slides into staining dish containing Antigen Retrieval Solution.
2.2.2. Place covered staining dish into the rice cooker. Add 120 ml of dH2O.
2.2.3. When cook is turned to warm (about 20 to 30 min), unplug the cooker and remove the staining dish to the bench top.
2.2.4. Allow to cool down, without cover, for 20 min.
2.3. Staining
2.3.1. Wash slides with TBST for 5 min on a shaker.
2.3.2. Inactivate endogenous peroxidase by covering tissue with 3% hydrogen peroxide for 10 min.
2.3.3. Wash slides three times with TBST (3 min each on a shaker).
2.3.4. Block slides with the blocking solution for 1 hour.
2.3.5. Dilute primary antibody in the blocking buffer per recommendation on the data sheet.
2.3.6. Apply primary antibody to each section and incubate overnight in the humidified chamber (4C).
2.3.7. Wash slides three times with TBST (3 min each on a shaker).
2.3.8. Apply to each section secondary HRP-conjugated anti-rabbit antibody diluted in the blocking solution per manufacturers recommendation; incubate for 1 hour at room temperature.
2.3.9. Wash slides three times with TBST (3 min each on a shaker).
2.3.10. Add freshly prepared DAB substrate to the sections.
2.3.11. Incubate tissue sections with the substrate at room temperature until suitable staining develops (generally 2 to 5 min).
2.3.12. Rinse sections with water.
2.3.13. Counterstain with Hematoxylin.
2.3.14. Rinse sections with water.
2.3.15. Dehydrate samples using two rinses with 100% Ethanol (20 dips per rinse) followed by two rinses with Xylene (30 dips per rinse).
2.3.16. Mount coverslips on slides using Permount medium.

Novus Biologicals USA
10730 E. Briarwood Avenue
Centennial, CO 80112
USA
Phone: 303.730.1950
Toll Free: 1.888.506.6887
Fax: 303.730.1966
nb-customerservice@bio-techne.com

Bio-Techne Canada
21 Canmotor Ave
Toronto, ON M8Z 4E6
Canada
Phone: 905.827.6400
Toll Free: 855.668.8722
Fax: 905.827.6402
canada.inquires@bio-techne.com

Bio-Techne Ltd
19 Barton Lane
Abingdon Science Park
Abingdon, OX14 3NB, United Kingdom
Phone: (44) (0) 1235 529449
Free Phone: 0800 37 34 15
Fax: (44) (0) 1235 533420
info.EMEA@bio-techne.com

General Contact Information
www.novusbio.com
Technical Support: nb-technical@bio-techne.com
Orders: nb-customerservice@bio-techne.com
General: novus@novusbio.com

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