Product Datasheet

IRE1 alpha [p Ser724] Antibody - BSA Free
NB100-2323

Unit Size: 0.1 ml

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

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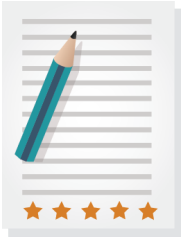
Updated 8/7/2024 v.20.1



NB100-2323

IRE1 alpha [p Ser724] Antibody - BSA Free

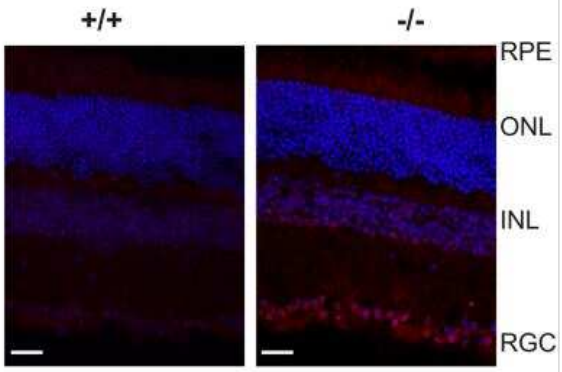
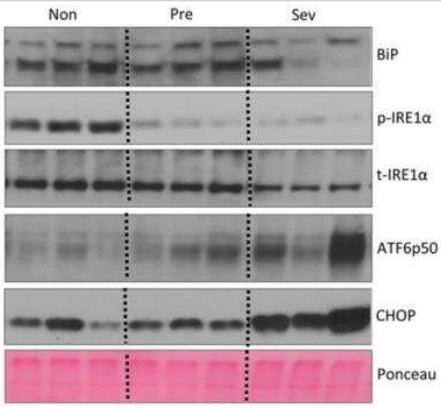
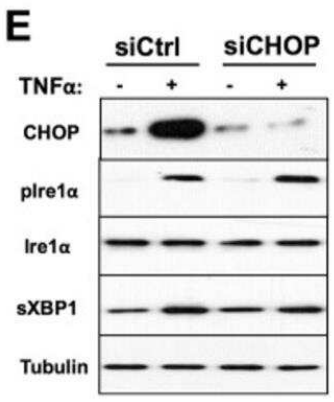
Product Information	
Unit Size	0.1 ml
Concentration	1.0 mg/ml
Storage	Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS
Target Molecular Weight	110 kDa

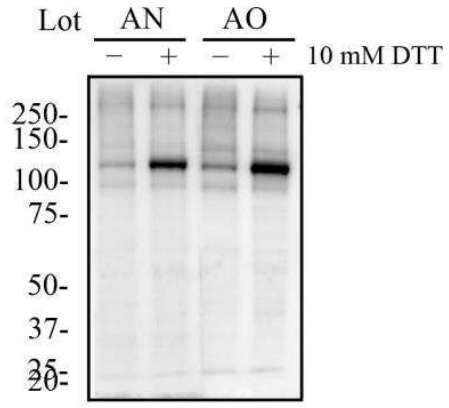
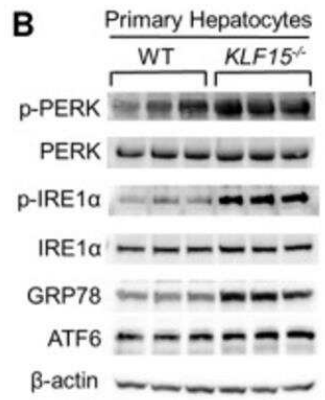
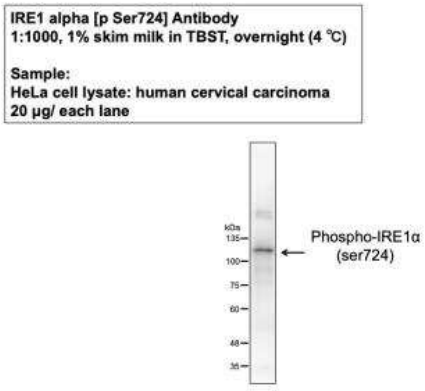
Product Description	
Description	When detecting phospho-IRE1 Alpha (Ser-724) using NB100-2323, it is recommended to normalize its band intensity/immunoreactivity with total-IRE1 alpha. NB100-2324 and NB110-59971 can be used for the detection of endogenous total IRE1 alpha.
Host	Rabbit
Gene ID	2081
Gene Symbol	ERN1
Species	Human, Mouse, Rat, Porcine, Drosophila, Goat, Mammal, Monkey, Primate, Rabbit, Golden Syrian Hamster
Reactivity Notes	Use in Porcine reported in scientific literature (PMID:35492579).Drosophila reactivity reported in scientific literature (PMID: 31641108). Goat reactivity reported in scientific literature (PMID: 29046053). Use in Golden Syrian Hamster reported in scientific literature (PMID:31167774).
Specificity/Sensitivity	NB100-2323 IRE1 alpha [p Ser724] Antibody detects IRE-1 alpha when phosphorylated at Ser724 residue.
Immunogen	This IRE1 alpha [p Ser724] antibody was raised against a synthetic peptide surrounding the phosphorylated serine 724 of the human IRE1 alpha protein. [Swiss-Prot #O75460]
Notes	Take a look at IRE1 alpha Antibody Sampler Pack [NBP2-50067] if you want to try 25ug aliquots of phospho-IRE1 alpha (Ser724) Antibody [NB100-2323SS] and total IRE1 alpha Antibody [NB100-2324SS] before purchasing 100ug full vials.

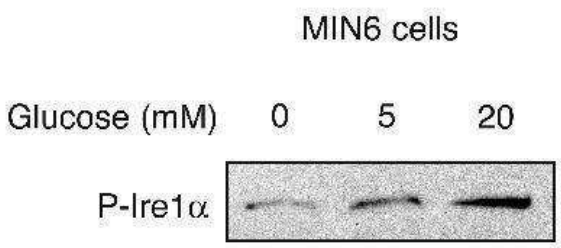
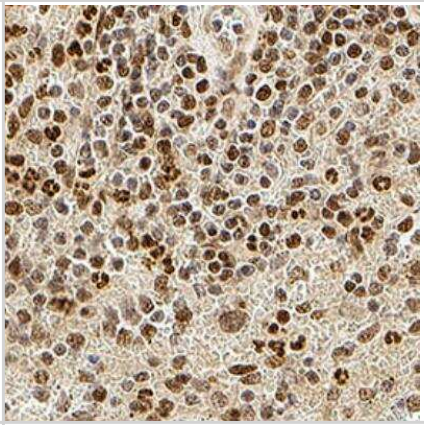
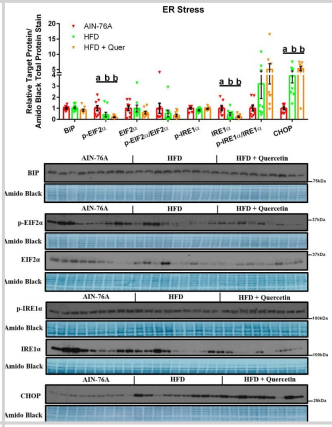
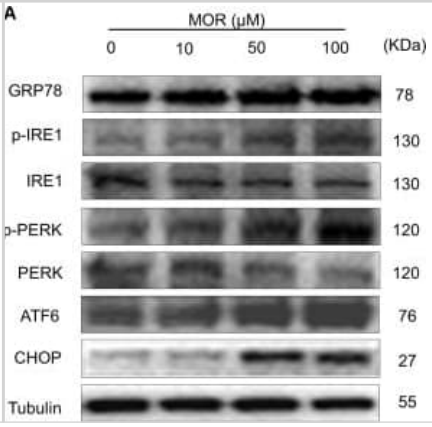
Product Application Details	
Applications	Western Blot, Simple Western, ELISA, Immunoblotting, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin, In vitro assay, Immunoprecipitation, Chromatin Immunoprecipitation (ChIP), Knockdown Validated
Recommended Dilutions	Western Blot 1:500 - 1:1000, Simple Western, ELISA 1:100 - 1:2000, Immunohistochemistry 1:10 - 1:500, Immunocytochemistry/ Immunofluorescence 1:10 - 1:500, Immunoprecipitation 1:10 - 1:500, Immunohistochemistry-Paraffin 1:10 - 1:500, Immunohistochemistry-Frozen 1:10 - 1:500, Immunoblotting, In vitro assay, Chromatin Immunoprecipitation (ChIP), Knockdown Validated

Application Notes	This IRE1 pS724 antibody is useful for WB, ELISA, and IHC-P sections (PMID: 19264902). Use in IHC-Frozen reported in scientific literature (PMID: 24823368). Use in ICC reported in scientific literature (PMID: 26762342). Use in immunoblotting reported in scientific literature (PMID: 24089213). Use In vitro assay reported in scientific literature (PMID: 24327956). Use in chromatin immunoprecipitation reported in scientific literature (PMID: 25225294). Knockdown Validated reported in scientific literature (PMID: 31159306). See Simple Western Antibody Database for Simple Western validation: Tested in lungs; separated by size; antibody dilution of 1:50.

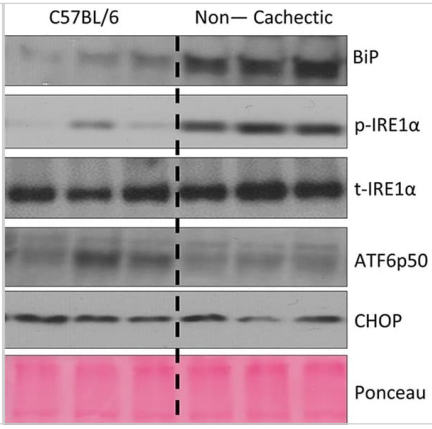
Images

P-Ire1a activation correlates with WFS1 cell expression. Cryosections of retina from 12 month old Wfs1+/+ and Wfs1-/- mouse were immunostained with anti-P-Ire1a antibody (red). DAPI was used for staining of cell nuclei (blue). RPE, retinal pigment epithelium; ONL, outer nuclear layer; INL, inner nuclear layer, RGC, retinal ganglion cells. Scale bars=50 um. Image collected and cropped by CiteAb from the following publication (//doi.org/10.1371/journal.pone.0097222) licensed under a CC-BY license.	
Hepatic ER stress markers with cachexia progression. ER stress markers Bip, IRE1a, ATF6p50 and CHOP were examined in the liver of non, pre and severely cachectic mice. (n = 6-8 per group, p < 0.05) Dotted line indicates levels of Non-cachectic mice. Non = Non-Cachectic Apc Min/+ Sev = severely cachectic Apc Min/+; * denotes significantly different from Non-cachectic Apc Min/+ Image collected and cropped by CiteAb from the following publication (//doi.org/10.1371/journal.pone.0119888) licensed under a CC-BY license.	
IRF-1 plays a central role in ER stress-mediated modulation of VCAM-1 expression by TGRL. HAEC were conditioned for 4 hr with TNFa (0.3 ng/ml) E: CHOP knockdown decreased TNFa-induced VCAM-1 expression. n=4. **P<0.01 vs. siCtrl+TNFa. Shown are representative blots from 3 independent experiments with similar results. Image collected and cropped by CiteAb from the following publication (//doi.org/10.1371/journal.pone.0078322) licensed under a CC-BY license.	

Analysis using HRP conjugate of NB100-2323. Detection of phosphorylated IRE-1 alpha using NB100-2323. Lane 1: COS-7 untransfected Lane 2: COS-7 expressing wild-type IRE1 alpha Lane 3: COS-7 expressing kinase-dead IRE1 alpha. Theoretical molecular weight: 110 kDa.	
Analysis of anti-IRE1 alpha (pSer724) using Lot AN and AO of NB100-2323. HeLa cells were treated (+) or untreated (-) with 10 mM DTT for 60 min to activate the UPR. Total protein was separated on a 7.5% gel by SDS-PAGE, transferred to PVDF membrane and blocked in 5% BSA in TBST. The membrane was probed with 2.0 ug/ml antibody in 5% BSA, and detected with an anti-rabbit HRP secondary antibody using chemiluminescence. Theoretical molecular weight: 110 kDa.	
Regulation of the unfolded protein response by KLF15. Western analysis of UPR activity in WT versus KLF15-/- primary hepatocytes. Hepatocytes were isolated from standard chow-fed 4-month-old male WT and KLF15 -/- mice. Two individual experiments were performed in triplicate; each lane indicates a technical replicate. Image collected and cropped by CiteAb from the following publication (//doi.org/10.1371/journal.pone.0077851) licensed under a CC-BY license.	
HeLa cell lysate, 20 ug. Antibody at 1:1000, 1% skim milk in TBST, overnight incubation at 4C. WB image submitted by a verified customer review.	

Detection in Min6 cells which were treated with different concentrations of glucose for 3 hours prior to lysates preparation.	
IRE1 (pS724) was detected in immersion fixed paraffin-embedded sections of human spleen using Rabbit Anti-Human IRE1 (pS724) polyclonal Antibody (Catalog # NB100-2323) at 1:300 for 1 hour at room temperature followed by incubation with the Anti-Rabbit IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC003). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to the perinuclear cytoplasm in splenocytes.	
Hepatic ER Stress.Representative hepatic western blots of BiP, phosphorylated (Ser51), total EIF2α and phosphorylated:total EIF2α, phosphorylated (Ser724), total IRE1α and phosphorylated:total IRE1α, and CHOP (n = 9). Diets not sharing a common letter differ significantly from one another (P≤.05).	
Morphine suppressed 6-OHDA-induced ER stress through activation of UPR. (A,B) Morphine induced UPR in SH-SY5Y cells. Protein levels of GRP78, p-IRE1α, IRE1α, p-PERK, PERK, ATF6, CHOP and Tubulin in SH-SY5Y cells were analyzed (A) and quantified (B) by western blot. □P < 0.05, □□P < 0.01, □□□P < 0.001 vs. control.	

Effect of cancer on ER stress markers.Bip1, IRE-1, ATF-6 p50 and CHOP expression in the liver of non—cachectic ApcMin/+ mice (N = 6 per group), compared to healthy C57BL/6 mice. Dotted line on the western blot indicates two different sections of the same gel. Values are expressed as Mean ± SE. * denotes significantly different from the healthy C57BL/6 mice as analyzed by a pre—planned t—test. $p < 0.05$.



Publications

Md Khalilur Rahman, Balasubrahmanyam Umashankar, Hassan Choucair, Kirsi Bourget, Tristan Rawling, Michael Murray The inositol-requiring enzyme 1 (IRE1) endoplasmic reticulum stress pathway promotes MDA-MB-231 cell survival and renewal in response to the aryl-ureido fatty acid CTU. The international journal of biochemistry & cell biology 2024-04-11 [PMID: 38608921]

Nathalie Launay, Montserrat Ruiz, Laia Grau, Francisco J. Ortega, Ekaterina V. Ilieva, Juan José Martínez, Elena Galea, Isidre Ferrer, Erwin Knecht, Aurora Pujol, Stéphane Fourcade Tauroursodeoxycholic bile acid arrests axonal degeneration by inhibiting the unfolded protein response in X-linked adrenoleukodystrophy Acta Neuropathologica 2016-12-21 [PMID: 28004277]

Rubio-Patino C, Bossowski JP, De Donatis GM. Low-Protein Diet Induces IRE1A-Dependent Anticancer Immunosurveillance. Cell metabolism. 1905-07-10 [PMID: 29551590]

M Oro?, M Grochowski, A Jaiswar, J Legierska, K Jastrz?bsk, M Nowak-Niez, M Ko?os, W Ka?miercza, T Olesi?ski, M Lenarcik, M Cybulska, M Mikula, A ?ylicz, M Mi?czy?ska, K Zettl, JR Wi?niewski, D Walerych The molecular network of the proteasome machinery inhibition response is orchestrated by HSP70, revealing vulnerabilities in cancer cells Cell Reports, 2022-09-27;40(13):111428. 2022-09-27 [PMID: 36170818]

Ming-Fo Hsu, Yoshihiro Ito, Maryam Afkarian, Fawaz G. Haj Deficiency of the Src homology phosphatase 2 in podocytes is associated with renoprotective effects in mice under hyperglycemia Cellular and molecular life sciences : CMLS 2024-04-02 [PMID: 36102977]

Rudalska R, Harbig J, Snaebjornsson M et al. LXR alpha activation and Raf inhibition trigger lethal lipotoxicity in liver cancer Nature Cancer 2021-02-01 [PMID: 35122079]

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Marcos F. Fondevila, Uxia Fernandez, Maria J. Gonzalez□Rellan, Natalia Da Silva Lima, Xabier Buque, Agueda Gonzalez□Rodriguez, Cristina Alonso, Marta Iruarrizaga□Lejarreta, Teresa C. Delgado, Marta Varela□Rey, Ana Senra, Vera Garcia□Outeiral, Eva Novoa, Cristina Iglesias, Begoña Porteiro, Daniel Beiroa, Cintia Folgueira, Marta Tojo, Jorge L. Torres, Lourdes Hernández□Cosido, Óscar Blanco, Juan Pablo Arab, Francisco Barrera, Diana Guallar, Miguel Fidalgo, Miguel López, Carlos Dieguez, Miguel Marcos, Maria L. Martinez□Chantar, Marco Arrese, Carmelo Garcia□Monzon, Jose M. Mato, Patricia Aspichueta, Ruben Nogueiras The L□α□Lysophosphatidylinositol/G Protein–Coupled Receptor 55 System Induces the Development of Nonalcoholic Steatosis and Steatohepatitis Hepatology (Baltimore, Md.) 2020-11-13 [PMID: 32329085]

M. Catarina Silva, Chialin Cheng, Waltraud Mair, Sandra Almeida, Helen Fong, M. Helal U. Biswas, Zhijun Zhang, Yadong Huang, Sally Temple, Giovanni Coppola, Daniel H. Geschwind, Anna Karydas, Bruce L. Miller, Kenneth S. Kosik, Fen-Biao Gao, Judith A. Steen, Stephen J. Haggarty Human iPSC-Derived Neuronal Model of Tau-A152T Frontotemporal Dementia Reveals Tau-Mediated Mechanisms of Neuronal Vulnerability Stem Cell Reports 2016-09-01 [PMID: 27594585]

Xiaoding Wang, Xukun Bi, Guangyu Zhang, Yingfeng Deng, Xiang Luo, Lin Xu, Philipp E. Scherer, Anwarul Ferdous, Guosheng Fu, Thomas G. Gillette, Amy S. Lee, Xuejun Jiang, Zhao V. Wang Glucose-regulated protein 78 is essential for cardiac myocyte survival Cell Death and Differentiation 2018-04-17 [PMID: 29666470]

Yiwei Xu, Jie Chen, Jianguo Chen, Junlin Teng EI24 promotes cell adaption to ER stress by coordinating IRE1 signaling and calcium homeostasis. EMBO reports 2022-03-14 [PMID: 35005829]

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NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

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