Product Datasheet

Endoplasmic Reticulum Enrichment Extraction Kit
NBP2-29482

Unit Size: 1 Kit

Storage of components varies. See protocol for specific instructions.

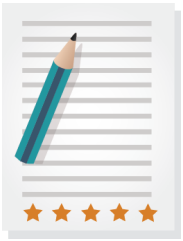
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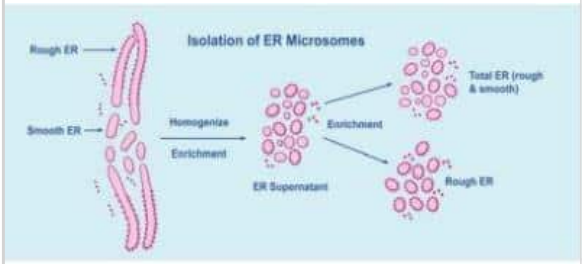
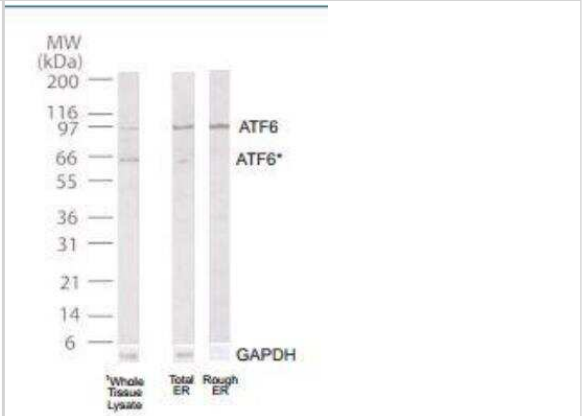
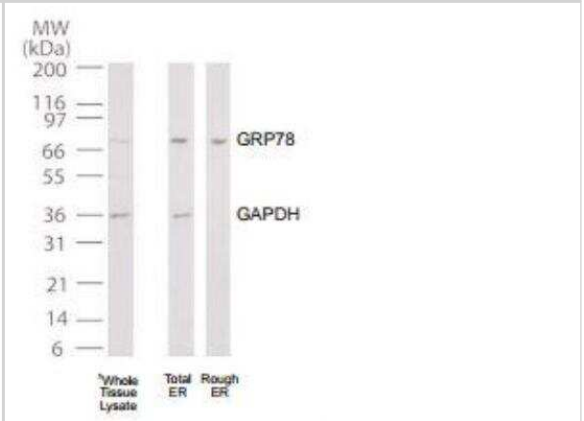
Endoplasmic Reticulum Enrichment Extraction Kit

Product Information	
Unit Size	1 Kit
Concentration	Concentration is not relevant for this product. Please see the protocols for proper use of this product.
Storage	Storage of components varies. See protocol for specific instructions.

Product Description	
Description	Isolating the ER may seem difficult due to its size and complex association with other components of the cytosol. The Endoplasmic Reticulum Enrichment Kit is a key tool that provides the necessary reagents together with an optimized protocol required to gently isolate and enrich for ER from tissues.
Species	Human, Mouse
Reactivity Notes	Use in Human reported in scientific literature (PMID:33811847). Use in Mouse reported in scientific literature (PMID:33846551)
Kit Components	5X Isosmotic Homogenization Buffer (30 mL), 1X Suspension Buffer (30 mL), 10X PBS (2 x 50 mL), 5X Calcium Chloride Solution (60 mL), 100X Protease Inhibitor Cocktail (2 x 0.75 mL)

Product Application Details	
Applications	Western Blot, Immunohistochemistry-Paraffin, Immunoprecipitation
Recommended Dilutions	Western Blot reported in scientific literature (PMID 23904601), Immunoprecipitation reported in scientific literature (PMID 33846551), Immunohistochemistry-Paraffin reported in scientific literature (PMID 33154371)
Application Notes	The kit is routinely tested using 0.5 gram of freshly isolated mouse liver tissue as the starting material. We typically get the following yields: Total ER fraction: 350 uL (12 mg/mL = 4.2 mg) or Rough ER fraction: 300 uL (9 mg/mL = 2.7 mg) These yields are based on using the 0.5 gram starting material for either isolating the Total ER fraction or the Rough ER fraction. If the starting material is divided at Step C and both the Total and Rough ER fractions are isolated, then yields will be approximately 1/2. Please note that all yields are approximate and may vary depending on the tissue type used and other variables.

Images

Endoplasmic Reticulum Enrichment Extraction Kit [NBP2-29482] - This kit is routinely tested and standardized using 0.5 gram of mouse liver tissue.	
Endoplasmic Reticulum Enrichment Extraction Kit [NBP2-29482] - ATF6 (3 ug/mL) and GAPDH (0.25 ug/mL). ATF6 is an ER stress-regulated transmembrane transcription factor. The blots were probed with ATF6, stripped and reprobed with GAPDH. Full-length ATF6 was detected in all 3 lanes, and was enriched in the ER fractions. GAPDH was detected in the whole lysate and total ER fraction, but not in the rough ER fraction. ATF6* may represent partial or cleaved/active ATF6.	
Endoplasmic Reticulum Enrichment Extraction Kit [NBP2-29482] - ATF6 (3 ug/mL) and GAPDH (0.25 ug/mL). GRP78 is an ER stress-regulated transmembrane transcription factor. The blots were probed with GRP78, stripped and reprobed with GAPDH. Full-length GRP78 was detected in all 3 lanes, and was enriched in the ER fractions. GAPDH was detected in the whole lysate and total ER fraction, but not in the rough ER fraction. GRP78* may represent partial or cleaved/active GRP78.	
Endoplasmic Reticulum Enrichment Extraction Kit [NBP2-29482] - Ontology analyses of differentially expressed proteins in mouse cohorts.	

Cellular compartments	Bonferroni P-value	Proteins
Cytoplasmic part	0.0002	Egfr, Cyp2b9, Ehhadh, Selenbp2, Crat, Tpd52, Cyp2b10, Acot4, Cyp7b1, Tfrc, Sqle, Nucb2, Acot12, Gys2, Cyp4a14, Idi1, Acaa1b
Microbody	0.0007	Ehhadh, Crat, Idi1, Acaa1b, Acot4
Peroxisome	0.0007	Ehhadh, Crat, Idi1, Acaa1b, Acot4
Endoplasmic Reticulum	0.0052	Cyp7b1, Sqle, Cyp2b9, Nucb2, Crat, Cyp2b10, Tpd52, Cyp4a14
Microsome	0.0057	Cyp7b1, Sqle, Cyp2b9, Cyp2b10, Cyp4a14
Biological pathways	**Bonferroni P-value**	**Proteins**
Fatty acid and steroid metabolism	0.0137	Cyp7b1, Cyp2b9, Ehhadh, Acot12, Crat, Cyp2b10, Cyp4a14

https://doi.org/10.1371/journal.pone.0193170.t001

Publications

Sawaguchi S, Varshney S, Ogawa M et al. O-GlcNAc on NOTCH1 EGF repeats regulates ligand-induced Notch signaling and vascular development in mammals eLife 2017-04-11 [PMID: 28395734] (Western Blot, Rat)

Han S, Wang Q, Song Y et al. Lithium ameliorates Niemann-Pick C1 disease phenotypes by impeding STING/SREBP2 activation iScience 2023-05-19 [PMID: 37128603] (Western Blot, Rat)

Fernandez-Fuente G, Overmyer KA, Lawton AJ et al. The citrate transporters SLC13A5 and SLC25A1 elicit different metabolic responses and phenotypes in the mouse Commun Biol 2023-09-09 [PMID: 37689798] (Western Blot, Rat)

Brendan K. Sheehan, Nicola S. Orefice, Yajing Peng, Samantha L. Shapiro, Luigi Puglielli ATG9A regulates proteostasis through reticulophagy receptors FAM134B and SEC62 and folding chaperones CALR and HSPB1 iScience 2021-03-16 [PMID: 33870132]

Jae Ryong Lim, Chang Woo Chae, Ji Yong Park, Young Hyun Jung, Jee Hyeon Yoon, Min Jeong Kim, Hyun Jik Lee, Gee Euhn Choi, Ho Jae Han Ethanol-induced ceramide production causes neuronal apoptosis by increasing MCL-1S-mediated ER-mitochondria contacts. Neurobiology of disease 2023-01-31 [PMID: 36689912]

Xiaozhen Zhang, Mengyi Lao, Hanshen Yang, Kang Sun, Yunfei Dong, Lihong He, Xinchi Jiang, Honghui Wu, Yangwei Jiang, Muchun Li, Honggang Ying, Xinyuan Liu, Jian Xu, Yan Chen, Hanjia Zhang, Ruhong Zhou, Jianqing Gao, Xueli Bai, Tingbo Liang Targeting cancer-associated fibroblast autophagy renders pancreatic cancer eradicable with immunochemotherapy by inhibiting adaptive immune resistance Autophagy 2024-01-04 [PMID: 38174993]

Solier S, Müller S, Cañeque T et al. A druggable copper-signalling pathway that drives inflammation Nature 2023-04-26 [PMID: 37100912]

Zhang X, Lao M, Yang H et al. Targeting cancer-associated fibroblast autophagy renders pancreatic cancer eradicable with immunochemotherapy by inhibiting adaptive immune resistance Research Square 2022-11-09 (Mouse, Human)

Halilovic M, Marx-BlUmel L, Marx C et al. Assessment of HDAC Inhibitor-Induced Endoplasmic Reticulum (ER) Stress Methods in molecular biology (Clifton, N.J.) 2022-10-18 [PMID: 36255630]

Miyamoto H, Ikeda M, Ide T et al. Iron Overload via Heme Degradation in the Endoplasmic Reticulum Triggers Ferroptosis in Myocardial Ischemia-Reperfusion Injury JACC: Basic to Translational Science 2022-07-01 [PMID: 36061338]

Murie M, Peng Y, Rigby MJ et al. ATase inhibition rescues age-associated proteotoxicity of the secretory pathway Communications biology 2022-02-25 [PMID: 35217767]

Zhang X, Huang X, Xu J Et Al. NEK2 inhibition triggers anti-pancreatic cancer immunity by targeting PD-L1 Nature communications 2021-07-27 [PMID: 34315872]

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