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Datasheet for 200-301-F37

GRP78 Antibody

Overview

Description:	Anti-GRP78 (MOUSE) Monoclonal Antibody - 200-301-F37
Item No.:	200-301-F37
Size:	100 µg
Applications:	IF, WB
Reactivity:	Human, Mouse, Rat, Bovine, Cryphonectria parasitica, Hamster, Monkey, Rabbit, Xenopus
Host Species:	Mouse

Product Details

Background:	GRP78 is a ubiquitously expressed, 78-kDa glucose- regulated protein, and is commonly referred to as an immunoglobin chain binding protein (BiP). The BiP proteins are categorized as stress response proteins because they play an important role in the proper folding and assembly of nascent protein and in the scavenging of misfolded proteins in the endoplasmic reticulum lumen. Translation of BiP is directed by an internal ribosomal entry site (IRES) in the 5' nontranslated region of the BiP mRNA. BiP IRES activity increases when cells are heat stressed. GRP78 is also critical for maintenance of cell homeostasis and the prevention of apoptosis. Luo et al. have provided findings that suggest GRP78 is essential for embryonic cell growth and pluripotent cell survival. In terms of diseases, GRP78 has been shown to be a reliable biomarker of hypoglycemia, to serve a neuroprotective function in neurons exposed to glutamate and oxidative stress, and its protein levels are reduced in the brains of Alzheimer's patients. Also, the induction of the GRP78 protein that results in severe glucose and oxygen deprivation could possible lead to drug resistance to anti-tumor drugs.
Synonyms:	BiP, Grp78, HspA5, MIF2, immunoglobulin heavy chain binding protein, 78 kDa glucose-regulated protein, Heat shock 70 kDa protein 5
Host Species:	Mouse
Clonality:	Monoclonal
Clone ID:	6H4-2G7
Format:	IgG1

Target Details

Gene Name:	HSPA5
Reactivity:	Human, Mouse, Rat, Bovine, Cryphonectria parasitica, Hamster, Monkey, Rabbit, Xenopus
Immunogen Type:	Recombinant Protein
Immunogen:	Grp78 Antibody was produced in mice by repeated immunizations with a his-tagged human GRP78.
Purity/Specificity:	Anti-GRP78 Antibody was purified by Protein G chromatography. A BLAST analysis was used to suggest cross-reactivity with GRP78 from Human, Mouse, Rat, Cow, Cryphonectria parasitica, Hamster, Monkey, Rabbit, and Xenopus based on 100% homology with the immunizing sequence. Cross-reactivity with GRP78 from other sources has not been determined. Heat Shock research.
Relevant Links:	• NCBI - NP_005338.1 • GeneID - 3309 • UniProtKB - P11021

Application Details

Tested Applications:	IF, WB
Application Note:	Anti-GRP78 Antibody has been tested in WB and IF/ICC. Expect a band approximately ~78kDa corresponding to specific lysates. Specific conditions for reactivity should be optimized by the end user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:200
IF:	1:100

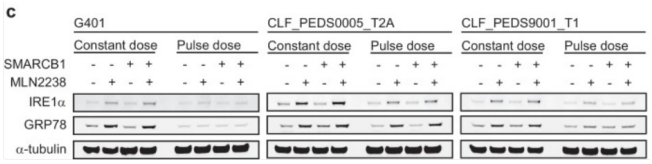
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1mg/mL by UV absorbance at 280 nm
Buffer:	1X PBS, pH 7.4
Preservative:	0.09% (w/v) Sodium Azide
Stabilizer:	50% (v/v) Glycerol

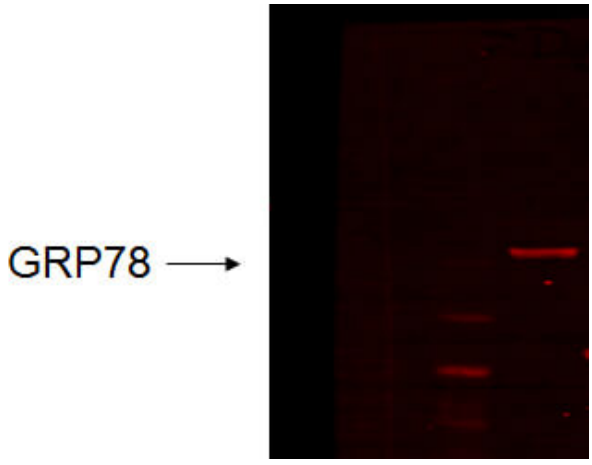
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



Western Blot
(c) Treatment with proteasome inhibitor, MLN2238 at 200 nM, leads to induction of IRE1α and GRP78. However, induction of these ER stress proteins is not rescued upon re-expression of SMARCB1.
Figure 4-S2.
PMID: 30860482



Western Blot
Western Blot of mouse anti-Grp78 antibody. Lane 1: molecular weight. Lane 2: HeLa cell lysates. Load: 35 µg per lane. Primary antibody: Grp78 antibody at 1:1000 for overnight at 4°C. Secondary antibody: IRDye800™ mouse secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: 72.4 kDa, ~75 kDa for Grp78. Other band(s): none.

References

- Hong AL et al. Renal medullary carcinomas depend upon SMARCB1 loss and are sensitive to proteasome inhibition. *eLife.* (2019)

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