

Product datasheet for **TA336719**

GRP78 (HSPA5) Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	ICC/IF, Simple Western, WB
Recommended Dilution:	Western Blot: 0.5 ug/ml, Simple Western: 1:25, Immunocytochemistry/ Immunofluorescence: 1:50
Reactivity:	Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Synthetic peptide made to a C-terminal portion of rat GRP78 (within residues 600-654). [Swiss-Prot# P06761]
Formulation:	PBS, 0.05% Sodium Azide. Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Concentration:	lot specific
Purification:	Immunogen affinity purified
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Predicted Protein Size:	78 kDa
Gene Name:	heat shock protein family A (Hsp70) member 5
Database Link:	NP_005338 Entrez Gene 14828 Mouse Entrez Gene 25617 Rat P11021



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Background:

HSP70 family member GRP78 (78 kD glucose-regulated protein) is localized in ER lumen as well as melanosomes (stage I to stage IV) where it facilitates protein folding/assembly, protein quality control, Ca²⁺ binding, and regulates ER stress signaling. GRP78 interacts with DNAJC1 and is a component of EIF2 complex (CELF1/CUGBP1, CALR, CALR3, EIF2S1, EIF2S2, HSP90B1 and HSPA5) as well as chaperone multiprotein complex (DNAJB11, HSP90B1, HSPA5, HYOU, PDIA2, PDIA4, PDIA6, PPIB, SDF2L1, UGT1A1, ERP29). GRP78 also interacts with TMEM132A as well as TRIM21, and may form a complex with ERLEC1, OS9, SEL1L and SYVN1. In cancerous cells, GRP78 overexpression is associated with UPR activation, including upregulation of associated proteins such as PERK, ATF6, CHOP etc that further regulate JNK and NF-κB ultimately leading to survival, tumor progression, angiogenesis, resistance to therapy and metastasis. GRP78 is a signaling receptor for activated alpha2-macroglobulin, plasminogen kringle 5, and microplasminogen, and plays role in viral entry of coxsackie B as well as dengue fever viruses. GRP78 is also involved in regulation of tissue factor procoagulant activity and functions as a receptor for angiogenic peptides via VEGFRs independent mechanism. Cell surface GRP78 is found associated with diverse proteins including VDAC, MHC-I, Cripto and DnaJ-like protein MTJ-1. Because GRP78 is present on the surface of cancer cells but not on normal cells in vivo, it provide an exciting opportunity for cancer targeting.

Synonyms:

BIP; GRP78; HEL-S-89n; MIF2

Note:

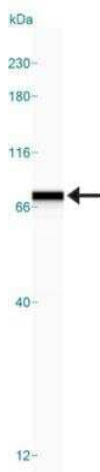
This GRP78 antibody is useful for Immunocytochemistry/Immunofluorescence and Western blot, where a band is seen at ~78 kDa.

Protein Families:

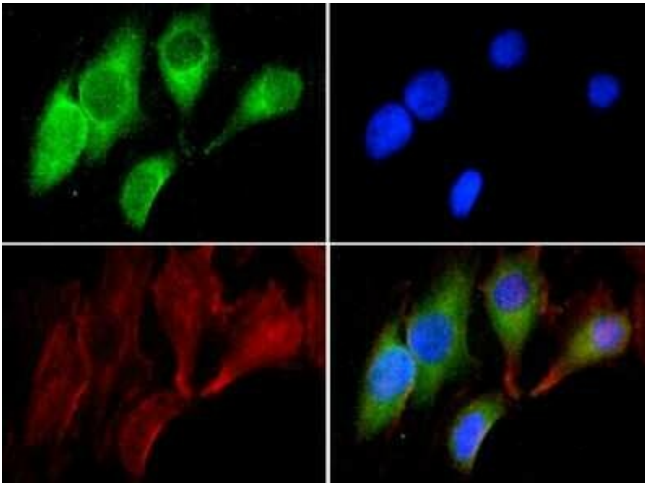
Druggable Genome

Protein Pathways:

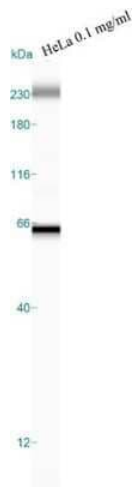
Antigen processing and presentation, Prion diseases

Product images:

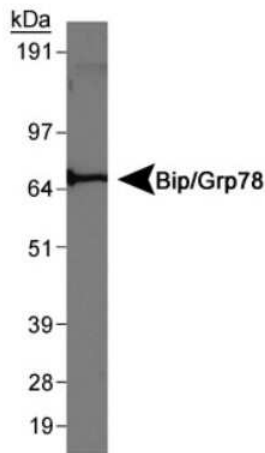
Simple Western: GRP78/HSPA5 Antibody TA336719 - Lane view shows a specific band for GRP78 in 1.0 mg/ml of HeLa lysate. This experiment was performed under reducing conditions using the 12-230kDa separation system.



Immunocytochemistry/Immunofluorescence: GRP78/HSPA5 Antibody TA336719 - BIP/Grp78 antibody was tested in HeLa cells with DyLight 488 (green). Nuclei and alpha-tubulin were counterstained with DAPI (blue) and DyLight 550 (red).



Simple Western: GRP78/HSPA5 Antibody TA336719 - Lane view shows a specific band detected for GRP78 in HeLa lysate. This experiment was performed under reducing conditions using the Wes or Sally Sue separation system 12-230kDa (or 66-440kDa).



Western Blot: GRP78/HSPA5 Antibody TA336719 - Detection of Bip/Grp78 in rat liver.