Technical Data Sheet

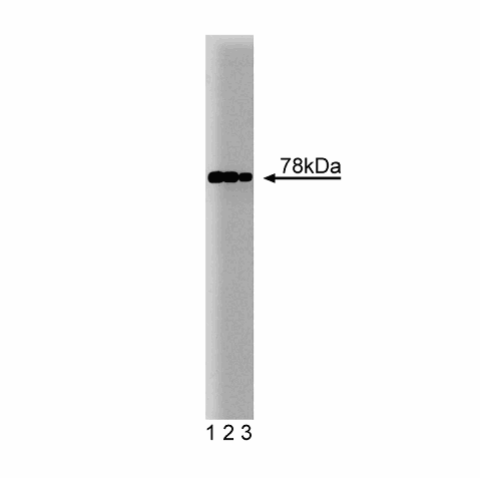
Purified Mouse Anti-BiP/GRP78

Product Information

Material Number:	**610979**
Alternate Name:	GRP78
Size:	150 µg
Concentration:	250 µg/ml
Clone:	40/BiP
Immunogen:	Human BiP/GRP78 aa. 525-628
Isotype:	Mouse IgG2a
Reactivity:	QC Testing: Human Tested in Development: Dog, Rat, Mouse
Target MW:	78 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Synthesis of nascent proteins occurs at sites on the endoplasmic reticulum (ER) called translocons. Translocon proteins form a pore in the membrane that allow passage of the newly synthesized protein from the ribosome into the ER lumen. As the nascent protein enters the lumen, it is bound by BiP (**bi**nding **p**rotein), the major chaperone of the ER. This protein is identical to the 78kDa glucose regulated protein, GRP78. BiP binds short hydrophobic sequences of the emerging peptide and prevents denaturation or nonspecific aggregation. Hydrolysis of ATP by BiP results in the release of the nascent protein which quickly assumes its proper conformation. However, if folding is incorrect, BiP again binds the protein and prevents its exit from the ER. In addition, BiP binding is thought to enhance the movement of secretory polypeptides across the ER membrane, but it is not required for protein translocation. It is 60% identical to Hsp70 and is similarly increased by conditions that produce incorrectly folded proteins. Thus, BiP is a chaperone of the ER lumen that binds misfolded or unassembled secretory proteins and ensures proper movement of proteins from the ER to the Golgi apparatus.



Western blot analysis of BiP on HepG2 cell lysate. *Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of anti-BiP antibody.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20°C.

Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Not Recommended

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.259.0187	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country-specific contact information, visit **bdbiosciences.com/how_to_order/**

Recommended Assay Procedure:
Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml.

Suggested Companion Products

Catalog Number	Name	Size	Clone
611555	HepG2 Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Han JM, Kim Y, Lee JS. Localization of phospholipase D1 to caveolin-enriched membrane via palmitoylation: implications for epidermal growth factor signaling. *Mol Biol Cell.* 2002; 13(11):3976-3988.(Clone-specific: Western blot)

Morishima N, Nakanishi K, Takenouchi H, Shibata T, Yasuhiko Y. An endoplasmic reticulum stress-specific caspase cascade in apoptosis. Cytochrome c-independent activation of caspase-9 by caspase-12. *J Biol Chem.* 2002; 277(37):34287-34294.(Clone-specific: Western blot)

Ting J, Lee AS.. Human gene encoding the 78,000-dalton glucose-regulated protein and its pseudogene: structure, conservation, and regulation. *DNA.* 1988; 7(4):275-286.(Biology)

Waelter S, Boeddrich A, Lurz R. Accumulation of mutant huntingtin fragments in aggresome-like inclusion bodies as a result of insufficient protein degradation. *Mol Biol Cell.* 2001; 12(5):1393-1407.(Clone-specific: Immunofluorescence)

Yamazaki T, Chang TY, Haass C, Ihara Y. Accumulation and aggregation of amyloid beta-protein in late endosomes of Niemann-pick type C cells. *J Biol Chem.* 2001; 276(6):4454-4460.(Clone-specific: Western blot)