



CELL LAB Rat Anti-Mouse BiP

<u>Cat. No.</u>	<u>Form</u>	<u>Quantity</u>
732239	Purified (UNLB) Antibody	0.5 mg
732240	Biotin (BIOT) Conjugate	0.5 mg

For Laboratory Use Only

DESCRIPTION

Clone: 76-E6
Isotype: Rat IgG1 κ
Specificity: BiP (Immunoglobulin heavy chain binding protein, Mr 78 kDa)

The immunoglobulin heavy chain binding protein BiP is a member of the hsp70 family of heat shock proteins, and is identical to the glucose regulated protein grp78.^{1,2} While BiP was originally described for its function in B cells, it is now known to be distributed in a variety of tissues, if not ubiquitously. The highly conserved hsp70 proteins have an essential physiological role in stress responses and as “molecular chaperones,” which are responsible for a variety of functions such as protein transport, prevention of protein toxicity and direction of protein folding.¹⁻⁵ With regard to its immunological role, BiP is a component of the endoplasmic reticulum and binds free intracellular heavy chains in nonsecreting pre-B cell lines (μ^+ ,L $^-$) or incompletely assembled Ig precursors in H $^+$ L $^+$ secreting hybridomas and myelomas. In the absence of light chain synthesis, heavy chains remain associated with BiP and are not secreted. BiP is an ATP binding protein and the dissociation of the BiP-heavy chain complex is probably driven by the ATPase activity attributed to BiP.⁶ Monoclonal antibody 76-E6 recognizes a conserved epitope localized within the region of amino acids 497 to 581 of BiP.

APPLICATIONS

- Enzyme-Linked Immunosorbent Assay (ELISA)
- Western blotting
- Studies of immunoglobulin assembly and secretion^{1,2}

CHARACTERIZATION

To ensure lot-to-lot consistency, each batch of product is tested to conform with characteristics of a standard reference reagent using Western blotting.

WORKING DILUTIONS

Immunoblotting: BIOT conjugate $\leq 10 \mu\text{g}/10^6$ cells

Other Applications: Since applications vary, determine the optimum working dilution of the product that is appropriate for your specific needs.

HANDLING AND STORAGE

- The purified (UNLB) antibody is supplied as 0.5 mg of purified immunoglobulin in 1.0 mL of 100 mM borate buffered saline, pH 8.0. No preservatives or amine-containing buffer salts added.

- The biotin (BIOT) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN₃.
- Reagent is stable until the expiration date on the vial when stored at 2-8°C.

STATEMENT OF WARNINGS

1. Specimens, samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
2. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.
3. Do not use reagent beyond the expiration date on the vial label.
4. Avoid microbial contamination of reagent or erroneous results may occur.
5. Use Good Laboratory Practice (GLP) when handling this reagent.
6. Harmful if swallowed.
7. After contact with skin, wash immediately with plenty of water.
8. Contains sodium azide. Sodium azide under acidic conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, immediately wash excessively with water.

TRADEMARKS

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For additional information or if damaged product is received, contact your local Beckman Coulter Representative.

REFERENCES

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4. Pierce SK. 1994. Molecular chaperones in the processing and presentation of antigen to helper T cells. *Experientia*, 50:1026-1030.
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