

KDEL Monoclonal Antibody (10C3)

Product Specifications

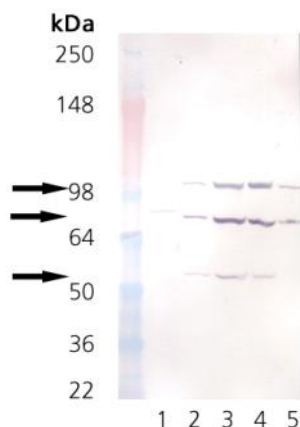
Catalog Number:	SPA-827
Source:	Mouse
Isotype:	IgG _{2a}
Species Reactivity:	Recognizes proteins containing the KDEL sequence in mammals, birds, insects and plants. Cross reacts with yeast proteins containing the KDEL sequence. <i>Other species not tested</i>
Applications:	WB ¹⁻⁵ : 1:1000 (Colorimetric) Other applications not tested. <i>The optimal dilution for a specific application must be determined by the investigator</i>
Predicted M.W.:	~ 55, 78 & 94 kDa
Concentration:	See product label
Purification:	Protein G Affinity
Format:	PBS, pH 7.2, 0.09% azide, 50% glycerol
Storage:	Store at -20 °C <i>Shipping conditions may differ from the recommended storage temperature</i>
Immunogen:	A 6 residue synthetic peptide (SEKDEL) based on rat Grp78 (amino acid residues 649-654), conjugated to KLH ¹ .
Related Products:	
SPP-765	Grp78 (BiP) Recombinant Protein
LYC-HL100	HeLa Cell Lysate (Heat Shocked)
SAB-100	Goat anti-Mouse IgG(Fab) PAb, HRP
SPA-826	Grp78 (BiP) PAb
LYC-PC100	PC-12 Cell Lysate

Background:

The tetrapeptide KDEL, located at the carboxy-terminal sequences of luminal proteins, serves as a retrieval motif essential for the precise sorting of these proteins along the secretory pathway. The KDEL proteins perform essential functions in the ER related to protein folding and assembly. The localization of chaperones and other soluble proteins to the endoplasmic reticulum (ER) follows their continuous retrieval from post-ER compartments by the KDEL receptor (Erd2p), a membrane protein localized in the Golgi apparatus. The KDEL receptor shares extensive sequence identity with the yeast Erd2p receptor for proteins bearing the tetrapeptide, HDEL, the yeast ER retention signal. Earlier studies using yeast mutants with deleted HDEL receptors supported this receptor's essential role in the retrieval of HDEL proteins and possible role in regulating transport through the Golgi complex². The regulation of transport through the KDEL receptor appears to be similar to many signal transduction processes in which membrane receptors act through a GTPase-activating protein (GAP, that promotes hydrolysis of GTP to GDP) or a guanine nucleotide exchange factor (GEP, that enhances exchange of GDP for GTP) of key small GTPases to regulate different cellular functions. Subsequent data demonstrates that the non-catalytic domain of GAP essential for GAP activity *in vivo* mediates the recruitment of cytosolic GAP to membranes, and its interaction with the KDEL receptor. This interaction with the KDEL receptor appears critical for GAP to act on ADP-ribosylation factor 1 (ARF1), a key regulator of transport in the secretory system³.

References:

- Vaux, D., Tooze, J. and Fuller, S.D. (1990) Nature **345**, 495-502.
- Pelham, H.R.B. (1990) Trends Biochem Sci. **15**, 483-486.
- Scheel, A.A. and Pelham, H.R.B. (1998) J Biol Chem. **273**, 2467-2474.
- Titorenko, V. I., *et al.* (1998) Mol Cell Biol **18**, 2789-2803.
- Chouki, A., *et al.* (1998) J Virology **72**, 3851-3858.



Western blot analysis of 200 ng of Grp78 (BiP) recombinant protein (SPP-765) (1), 20 µg RK-13 (2), 20 µg Mouse liver microsomes (3), 20 µg Rat liver microsomes (4) and 20 µg of heat-shocked HeLa lysates (5), probed with KDEL Mouse Monoclonal Antibody (10C3) at 1:1000

FOR RESEARCH USE ONLY; NOT FOR THERAPEUTIC OR DIAGNOSTIC USE

5777 Hines Drive • Ann Arbor, MI • 48108 | Tel: 800-833-8651 or 800-668-6113 | Fax: 734-668-2793
www.assaydesigns.com | orders@assaydesigns.com | technical@assaydesigns.com

Last Revised: 2/28/2008