

PRODUCT INFORMATION



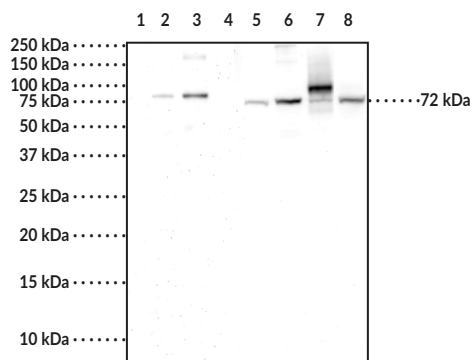
GRP78 Monoclonal Antibody (Clone 7D8)

Item No. 25690

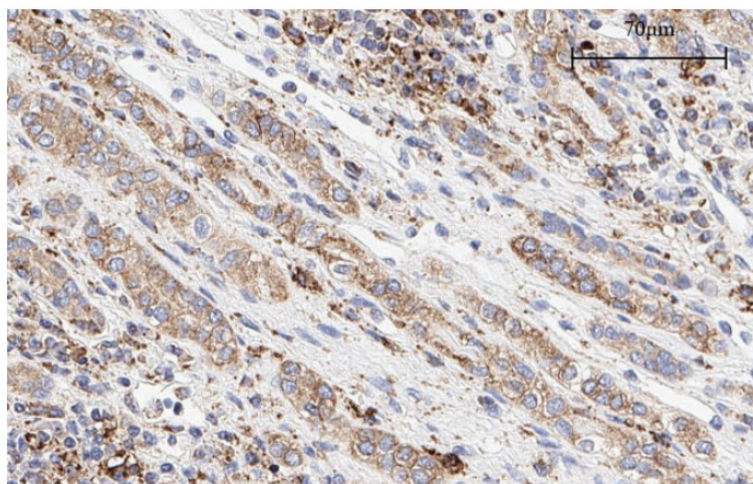
Overview and Properties

Contents:	This vial contains 100 µg of protein G-purified GRP78 monoclonal antibody.
Synonyms:	Binding-immunoglobulin Protein, BiP, Endoplasmic Reticulum Chaperone BiP, 78 kDa Glucose-regulated Protein, Heat Shock Protein Family A Member 5, Heat Shock Protein 70 Family Protein 5, Hsp70 Family Protein 5, Immunoglobulin Heavy Chain-binding Protein
Immunogen:	Full length human recombinant GRP78 protein
Cross Reactivity:	(-) Hsp70
Species Reactivity:	(+) Human, Mouse, Rat
Uniprot No.:	P11021
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Clone:	7D8
Host:	Mouse
Isotype:	IgG1
Applications:	ELISA, Immunohistochemistry (IHC), and Western blot (WB); the recommended starting dilution for IHC is 1:200, and for ELISA and WB is 1:1,000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: GRP78 recombinant protein (0.001 µg)
Lane 2: GRP78 recombinant protein (0.005 µg)
Lane 3: GRP78 recombinant protein (0.02 µg)
Lane 4: Hsp70 recombinant protein (0.1 µg) [negative control]
Lane 5: A549 Cell Lysate (50 µg)
Lane 6: HeLa Heat Shock Cell Lysate (30 µg)
Lane 7: Mouse Kidney Lysate (40 µg)
Lane 8: Rat Intestine Lysate (40 µg)



Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) human kidney tissue after heat induced antigen retrieval in pH 6.0 citrate buffer. After incubation with GRP78 Monoclonal Antibody (Clone 7D8) (Item No. 25690) at a 1:200 dilution, slides were incubated with biotinylated secondary antibody, followed by alkaline phosphatase-streptavidin and chromogen (DAB).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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Description

Glucose-regulated protein 78 kDa (GRP78), also known as heat shock 70 kDa protein 5 (HspA5) and immunoglobulin heavy chain-binding protein (BiP), is a glucose-regulated protein that is constitutively expressed in the lumen of the endoplasmic reticulum (ER).¹⁻³ It is composed of two functional domains, an N-terminal nucleotide-binding domain that contains an ATP catalytic site and a C-terminal substrate binding domain that binds hydrophobic polypeptides.⁴ GRP78 functions as a molecular chaperone, assisting in the translocation of polypeptides from the cytosol into the ER, folding of nascent polypeptides, as well as refolding and preventing aggregation of misfolded proteins. It also plays a role in the ER-assisted degradation (ERAD) and unfolded protein response (UPR) pathways.^{5,6} GRP78 chaperone activity is driven by an ATPase cycle that is regulated by ER-localized DnaJ-like protein co-factors and nuclear exchange factors.^{7,8} Expression of GRP78 is upregulated in response to ER stress caused by viral and bacterial infections as well as various cancers.⁹ ER stress can also promote extracellular secretion of GRP78 leading to its anti-inflammatory functions in immunity.¹⁰ Cayman's GRP78 Monoclonal Antibody can be used for Western blot and ELISA applications. The antibody recognizes GRP78 (HspA5/BiP) at ~72 kDa from human, mouse, and rat samples.

References

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