PRODUCT INFORMATION

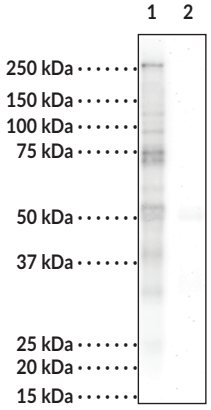
Anti-DNP Monoclonal Antibody (Clone 8G11)

Item No. 25863

Overview and Properties

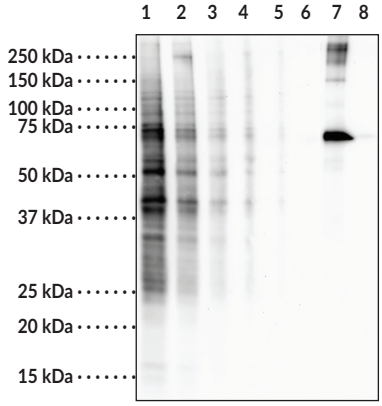
Contents:	This vial contains 100 µg of protein G-purified monoclonal antibody.
Synonyms:	2,4-Dinitrophenol, 2,4-DNP
Immunogen:	2,4-Dinitrophenol
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Clone:	8G11
Host:	Mouse
Isotype:	IgG1
Applications:	ELISA, immunoprecipitation (IP), and Western blot (WB); the recommended starting dilution for ELISA and WB is 1:1,000 and 5 µg per IP test. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: Anti-DNP (Clone 8G11) DNP-conjugated HeLa IP (20 µl)
Lane 2: Anti-DNP (Clone 8G11) Non-conjugated HeLa IP (20 µl)

5 µg of Anti-DNP Monoclonal Antibody (Clone 8G11) was used to immunoprecipitate 50 µg of either DNP-conjugated HeLa or non-conjugated HeLa lysate. mAb-conjugates were captured using 100 µl protein A. mAb-conjugates were removed from protein A with 1X SDS-PAGE loading buffer and run on a reducing 12% acrylamide gel. Conjugates were detected by Western blot using 1 µg/ml Anti-DNP Polyclonal Antibody (Item No. 25864) and appropriate HRP-conjugated secondary antibody.



Lane 1: DNP-conjugated HeLa Lysate (10 µg)
Lane 2: DNP-conjugated HeLa Lysate (5 µg)
Lane 3: DNP-conjugated HeLa Lysate (2.5 µg)
Lane 4: DNP-conjugated HeLa Lysate (1 µg)
Lane 5: DNP-conjugated HeLa Lysate (0.5 µg)
Lane 6: Non-conjugated HeLa Lysate (10 µg)
Lane 7: DNP-conjugated BSA (0.01 µg)
Lane 8: Non-conjugated BSA (1 µg)

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Description

2,4-Dinitrophenol (DNP) is a hapten that induces a strong immune response when attached to proteins or peptides.[1,2] DNP can be incorporated at protein carbonyls *via* covalent linkage of DNP to carbonyl groups using 2,4-dinitrophenylhydrazine (DNPH) or through site-specific incorporation of unnatural amino acids that contain a DNP functional group.[1,3] Immunization with DNP-modified proteins or tumor cells induces antibody formation *in vivo* and has been used in the design of vaccines for clearance of disease-causing cells or viruses and induction of autoimmune diseases such as colitis and thyroiditis in various animal models.[4,5] Cayman's Anti-DNP Monoclonal Antibody can be used for ELISA, Western blot, and immunoprecipitation applications.

References

1. Ren, W., Ji, A., Wang, M.X., *et al.* Expanding the genetic code for a dinitrophenyl hapten. *Chembiochem.* **16(14)**, 2007-2010 (2015).
2. Jasani, B., Thomas, N.D., Navabi, H., *et al.* Dinitrophenyl (DNP) hapten sandwich staining (DHSS) procedure. A 10 year review of its principle reagents and applications. *J. Immunol. Methods* **150(1-2)**, 193-198 (1992).
3. Yang, T., Zhong, P., Qu, L., *et al.* Preparation and identification of anti-2, 4-dinitrophenyl monoclonal antibodies. *J. Immunol. Methods* **313(1-2)**, 20-28 (2006).
4. Berd, D., Maguire, H.C., Jr., Mastrangelo, M.J., *et al.* Activation markers on T cells infiltrating melanoma metastases after therapy with dinitrophenyl-conjugated vaccine. *Cancer Immunol. Immunother.* **39(3)**, 141-147 (1994).
5. Manne, J., Mastrangelo, M.J., and Berd, D. TCR rearrangement in lymphocytes infiltrating melanoma metastases after administration of autologous dinitrophenyl-modified vaccine. *J. Immunol.* **169(6)**, 3407-3412 (2002).

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