

Technical Data Sheet

Purified Mouse Anti-Cytochrome C**Product Information**

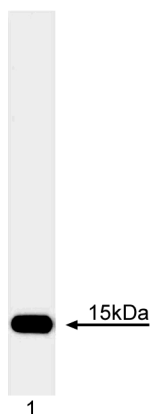
Material Number:	556433
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	7H8.2C12
Immunogen:	Synthetic Peptides of Pigeon Cytochrome C
Isotype:	Mouse IgG2b, κ
Reactivity:	QC Testing: Human Tested in Development: Mouse, Rat, Horse, Pigeon
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

Description

A cytochrome is an electron-transporting protein that contains a heme prosthetic group. Cytochromes have been known to be essential components of the mitochondrial respiratory chain since 1925. The iron atom of the heme group in cytochromes alternates between a reduced ferrous (+2) state and an oxidized ferric (+3) state during electron transport in oxidative phosphorylation. Cytochromes are classified into four groups (a, b, c, and d) according to spectrochemical characteristics, and there are five cytochromes between Coenzyme QH₂ and O₂ in the electron transport chain. Cytochrome c is a water-soluble peripheral membrane protein of the mitochondria and transports electrons from the Coenzyme QH₂ - Cytochrome c reductase complex to the Cytochrome c oxidase complex. Recently it has been suggested that Cytochrome c may be required for cells to undergo apoptosis. Mitochondria may be involved in apoptosis by releasing Cytochrome c to the cytosol where it functions in the activation of Caspase 3 (CPP32), an ICE family molecule that has been shown to trigger apoptosis when activated. In the cytoplasm Cytochrome C might exist in polymeric forms, appearing as a 58-60 kDa band by western blot analysis, rather than the monomeric form. Monomeric Cytochrome c migrates at a reduced molecular weight of 15 kDa.

Clone 7H8.2C12 recognizes the denatured form of pigeon, horse, rat, mouse and human Cytochrome c. It does not recognize the native form of Cytochrome c. Clone 7H8.2C12 recognizes an epitope within amino acids 93-104 (inclusive) of pigeon Cytochrome C, based on competitive ELISA results. Synthetic peptides corresponding to amino acids 1-80, 81-104 and 66-104 of pigeon Cytochrome c were used as immunogens. Clone 7H8.2C12 is used for western blot detection of Cytochrome c. Clone 6H2.B4, Cat. no. 556432, is used for immunoprecipitation. Cell lines P388D1 mouse lymphoma (ATCC CCL-46), HeLa human carcinoma (ATCC CCL-2), Jurkat T leukemia (ATCC TIB-152), and NIH/3T3 mouse fibroblast cells (ATCC CRL-1658) may be used as positive control cell lysates.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



Western blot analysis of cytochrome c. Lysate from HL-60 cells were probed with anti-cytochrome c (clone 7H8.2C12, Cat. No. 556433). The 7H8.2C12 antibody identifies cytochrome c as an ~15 kDa band.

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Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Store undiluted at 4° C.

Application Notes

Application

Western blot	Routinely Tested
Immunoprecipitation	Not Recommended

Recommended Assay Procedure:

Applications include western blot analysis (1-2 µg/ml). Clone 7H8.2C12 is not useful for immunoprecipitation. However, clone 6H2.B4 (Cat. No. 556432) is useful for immunoprecipitation of Cytochrome c.

Suggested Companion Products

Catalog Number	Name	Size	Clone
556432	Purified Mouse Anti-Cytochrome c	0.1 mg	6H2.B4

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.

References

Goshorn SC, Retzel E, Jemmerson R. Common structural features among monoclonal antibodies binding the same antigenic region of cytochrome c. *J Biol Chem.* 1991; 266(4):2134-2142.(Biology)
Jemmerson R, Johnson JG, Burrell E, Taylor PS, Jenkins MK. A monoclonal antibody specific for a cytochrome c T cell stimulatory peptide inhibits T cell responses and affects the way the peptide associates with antigen-presenting cells. *Eur J Immunol.* 1991; 21(1):143-151.(Immunogen: ELISA)
Liu X, Kim CN, Yang J, Jemmerson R, Wang X. Induction of apoptotic program in cell-free extracts: requirement for dATP and cytochrome c. *Cell.* 1996; 86(1):147-157.(Biology)