Product Data Sheet

Product Name: Cytochrome c fragment (93-108)
Cat. No.: GP10007

Chemical Properties

Cas. No.			
Formula	$C_{79}H_{133}N_{23}O_{25}$	M.Wt	1805.04
Solubility	≥ 180.5mg/mL in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Background

H2N-ANERADLIAYLKQATK-OH

The Cytochrome c is a small heme protein found loosely associated with the inner membrane of the mitochondrion. Cytochromes c from certain eukaryotes, including plants and fungi but not higher animals, contains methylated lysine residues at specific positions[1].

Cytochrome c is a required cofactor for Apaf-1 function[2]. Overexpression of bcl-2, or its close family member bcl-Xl, blocks the release of cytochrome c from mitochondria, which otherwise occurs when cells are signaled to undergo apoptosis[3].

Cytochrome c is absolutely required in in vitro system for the activation of caspase-3 and caspase-9. When cytochrome c was depleted from HeLa cell S-100 extracts by a monoclonal antibody, the ability to activate caspases was abolished4. t. When cytochrome c was depleted, caspase-9 failed to bind Apaf-1 even in the presence of dATP. The binding was restored when purified cytochrome c was added. These suggest that cytochrome c initiates apoptosis by inducing the formation of the Apaf-1/caspase-9 complex[4].

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References:
1. B. Polevoda, M.R. Martzen, B. Das, E. M. Phizicky, and F. Sherman. Cytochrome c Methyltransferase, Ctm1p, of Yeast. The J Biol.Chem. 275: 20508-20513, 2000.
2. Liu, X, Kim, C.N., Pohl, J., and Wang, X. (1996a). Purification and characterization of an interleukin-1' converting enzyme family of protease that activates cysteine protease p32. J. Biol. Chem. 271:13371-13376.
3. Kharbanda, S., Pandey, P., Schofield, L., Israels, S., Roncinske, R.,Yoshida, K., Bharti, A., Yuan, Z.M., Saxena, S., Weichselbaum, R.,et al. (1997). Role for Bcl-xL as an inhibitor of cytosolic cytochrome C accumulation in DNA damage-induced apoptosis. Proc. Natl. Acad. Sci. USA 94, 6939-6942.
4. P.Li, D.Nijhawan et al. Cytochrome c and dATP-Dependent Formation of Apaf-1/Caspase-9 Complex Initiates an Apoptotic Protease Cascade. Cell, 91: 479-489, 1997.

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