# Technical Data Sheet

# **Purified Mouse Anti-Human Caspase-6**

# **Product Information**

Material Number:	556581
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	B93-4
Immunogen:	Human Caspase-6 aa. 271-285
Isotype:	Mouse IgG1, ĸ
Reactivity:	QC Testing: Human
Target MW:	34/11 kDa
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

#### Description

The caspase family of cysteine proteases plays a key role in apoptosis and inflammation. ICE (interleukin-1ß converting enzyme) was the first member of this family to be discovered following a search for human proteins with homology to ced-3, a cell death gene identified in C. elegans. "Caspase" has been adopted as a root name for all family members based on the properties of these enzymes. The "c" reflects a cysteine protease mechanism and "aspase" refers to their ability to cleave after aspartic acid residues. Caspases are synthesized as inactive proenzymes that are processed in cells undergoing apoptosis by self-proteolysis and/or cleavage by another protease. The processed forms consist of large (17-22 kDa) and small (10-12 kDa) subunits which 34kDa associate to form an active enzyme. Caspase-6 exists as two isoforms, designated Mch $2\alpha$  (caspase-6) and Mch $2\beta$ , a proteolytically inactive isoform which lacks half of the large subunit.3 Caspase-6 is most closely related to caspase-3, and can be proteolytically cleaved/activated by caspase-3 into large (p18) and small (p11) subunits. Similarly, caspase-3 has been shown to be activated by caspase-6, suggesting that these proteases may generate an amplification cycle during apoptosis. Other proteolytical targets of Western blot analysis of caspase-6. In lane 1, active caspase-6 include lamin A and a cytosolic nuclease which translocates to the Daudi B cell lysate was probed with anti-nucleus to promote DNA fragmentation. Caspase-6 has also been shown to cleave Fak (focal adhesion kinase), a non-receptor protein tyrosine kinase that transduces cell Clone B93-4 identifies full length caspase-6 at survival and proliferation signals from contact sites between the cell surface and extracellular matrix. In this instance, caspase-6 cleavage inhibits the anti-apoptotic function of Fak. Therefore, the protease activity of caspase-6 plays both activating and inhibitory roles in apoptotic pathways. Caspase-6 is observed at ~34 kDa in SDS-PAGE. The B93-4 clone recognizes human caspase-6. The antibody detects both full length caspase-6 (34 kDa), as well as the p11 subunit of the active enzyme. A synthetic peptide sequence corresponding to amino acids 271-285 (KKQVPCFASMLTKK) of human caspase-6 was used as immunogen.



Western blot analysis of caspase-6. In lane 1, Daudi B cell lysate was probed with anti-human caspase-6 (clone B93-4; Cat. No. 556581). Clone B93-4 identifies full length caspase-6 at ~34 kDa (lane 1). Lane 2, recombinant human caspase-6 (Cat. No. 556474) which exists as a proteolytically cleaved dimer of 18 kDa and 11 kDa subunits, was probed with clone B93-4. The antibody identifies the 11 kDa subunit of active caspase-6.

#### **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					R	Routinely Tested		
BD Bioscie	ences						•	
bdbiosciences.	com							
United States 877.232.8995	Canada 888.259.0187	Europe 32.53.720.550	Japan 0120.8555.90	Asia Pacific 65.6861.0633	Latin America/C 55.11.5185.9995	aribbean		
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#### **Recommended Assay Procedure:**

Applications include western blot analysis (2 µg/ml). Recombinant human caspase-6 or 293 human embryonic kidney cells (ATCC CRL-1573) are suggested as positive controls for this application.

## **Suggested Companion Products**

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)

## 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

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- Cryns V, Yuan J. Proteases to die for. Genes Dev. 1998; 12(11):1551-1570.(Biology)
- Fernandes-Alnemri T, Litwack G, Alnemri ES. Mch2, a new member of the apoptotic Ced-3/Ice cysteine protease gene family. *Cancer Res.* 1995; 55(13):2737-2742.(Biology)

Mitamura S, Ikawa H, Mizuno N, Kaziro Y, Itoh H. Cytosolic nuclease activated by caspase-3 and inhibited by DFF-45. *Biochem Biophys Res Commun.* 1998; 243(2):480-484.(Biology)

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