Technical Data Sheet

Purified Mouse Anti-Caspase-7

Product Information

Material Number:	**551238**
Alternate Name:	Mch3
Size:	50 µg
Concentration:	0.5 mg/ml
Clone:	10-1-62
Immunogen:	Human caspase-7 full-length recombinant protein
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human Tested in Development: Mouse
Target MW:	20 kDa, 32 kDa, 35 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The caspase family of cysteine proteases plays a key role in apoptosis and inflammation. Caspases are synthesized as inactive proenzymes containing three domains, that are processed into large and small subunits that associate to form the active enzyme. Processing can occur in apoptotic cells by either transactivation, self-proteolysis, or cleavage by another protease. While caspases share a common structure, there are some differences, such as the preferred substrate specificity. These sequence differences in specificity, as well as the size of the NH2-terminal prodomains can be used to catagorize the caspases into functional groups including, apoptotic initiators (long prodomains), apoptotic executioners' (short prodomains), and cytokine processors. Caspase-7, along with caspase-3 and -6 are members of the apoptotic executioners group containing short prodomains; caspase-7 is structurally and functionally most similar to caspase-3. Upon induction of apoptosis, pro-caspase-7 (35 kDa) is first converted to a 32 kDa intermediate, which is further processed into active subunits consisting of 20 kDa and 11 kDa forms (Swiss-Prot P55210). Active caspase-7 has been shown to cleave the nuclear substrate PARP as well as the sterol regulatory element-binding protein 1 (SREBP-1). In cells undergoing Fas-mediated apoptosis *in vivo*, active caspase-7 has been shown to translocate from the cytosol to the mitochondrial and microsomal fractions, whereas caspase-3 remains cytosolic. This data supports the hypothesis that similar apoptotic executioners cleave distinct substrates in different cellular compartments. The antibody recognizes human and mouse caspase-7. Full-length recombinant human caspase-7 protein was used as immunogen. The antibody is routinely tested by western blot and immunoprecipitation analysis of Jurkat T cells (please refer to Table I for what forms of caspase-7 are identified in a particular application).

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	Tested During Development

Recommended Assay Procedure:

The antibody is recommended for western blot analysis (0.62-0.25 µg/ml) and immunoprecipitation (4 µg/200 µg cell lysate).Jurkat T cells (ATCC TIB-152) are recommended as a positive control for these applications.

BD Biosciences Pharmingen offers several monoclonal caspase-7 antibodies. A Jurkat and HepG2 model cell system was used to evaluate these antibodies; these results are summarized in the following table. However, actual bands observed could vary according to the cell model system or treatment used.

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.259.0187	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

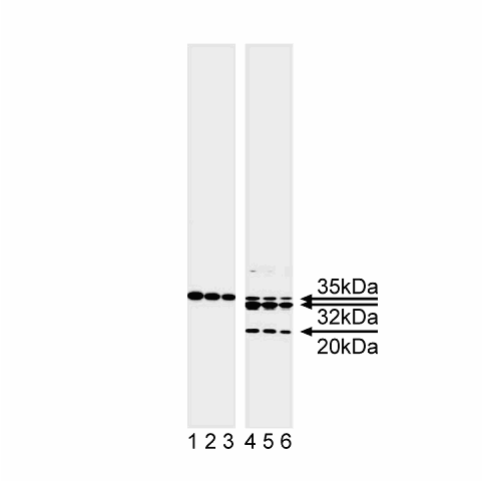
For country-specific contact information, visit **bdbiosciences.com/how_to_order/**

Clone	Catalog Number	Western Blot			Immunoprecipitation		
		35kDa	32kDa	20kDa	35kDa	32kDa	20kDa
10-1-62	551238/80821N	+	+	+	+	+	-
51	610812/M64620	+	?	?	?	?	?
B94-1	556541/66871A	+	-	+	?	?	?
8-1-47	551236/80811N	+	+	+	+	+	+
11-1-56	551240/80831N	+	-	-	+	+	-

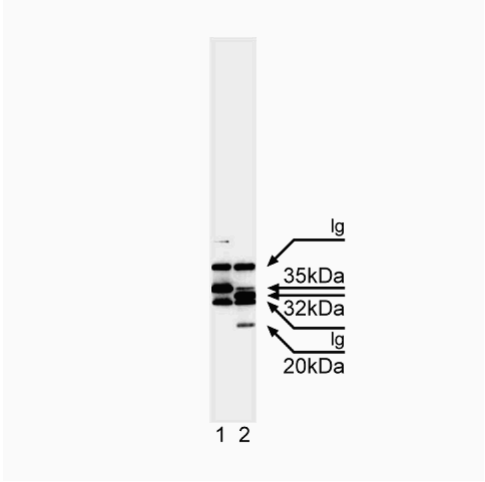
(+) = positive, (-) = negative, (?) = not tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
611451	Jurkat Cell Lysate	500 µg	(none)



Western blot analysis of caspase-7. *Lysates from control (lanes 1-3) and camptothecin-treated Jurkat cells (lanes 4-6) were probed with anti-human caspase-7 (clone 10-1-62, Cat. No. 551239) at the following concentrations: 0.25 (lanes 1, 4), 0.125 (lanes 2, 5) and 0.062 µg/ml (lanes 3, 6). Caspase-7 is identified as 35 kDa (proform), 32 kDa (intermediate), and 20 kDa (active) bands in treated cells, and the 35 kDa band in control cells.*



Immunoprecipitation/western blot analysis of caspase-7. *Lysate from either control (lane 1) or camptothecin-treated Jurkat cells (lane 2) were each immunoprecipitated with anti-caspase-7 (clone 10-1-62), and western blotted with anti-human caspase-7 (clone 8-1-47). The 35 kDa (proform) caspase-7 was identified in control cells and the 35 kDa (proform) and 32 kDa (intermediate) forms were identified in camptothecin-treated cells.*

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

Chandler JM, Cohen GM, MacFarlane M. Different subcellular distribution of caspase-3 and caspase-7 following Fas-induced apoptosis in mouse liver. *J Biol Chem.* 1998; 273(18):10815-10818.(Biology)

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Germain M, Affar EB, D'Amours D, Dixit VM, Salvesen GS, Poirier GG. Cleavage of automodified poly(ADP-ribose) polymerase during apoptosis. Evidence for involvement of caspase-7. *J Biol Chem.* 2002; 277(20):18053-18060.(Biology)

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Wolf BB, Green DR. Suicidal tendencies: apoptotic cell death by caspase family proteinases. *J Biol Chem.* 1999; 274(29):20049-20052.(Biology)