

XIAP Antibody

- Small 100 µl
(10 Western mini-blot)
- Large 300 µl
(30 Western mini-blot)

rev. 08/27/08

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This product is for *in vitro* research use only and is not intended for use in humans or animals.
This product is not intended for use as a therapeutic or in diagnostic procedures.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, M, R, Mk	53 kDa	Rabbit**

Background: The inhibitor of apoptosis protein (IAP) family consists of an evolutionarily conserved group of apoptosis inhibitors containing a conserved 70 amino acid BIR (baculovirus inhibitor repeat) domain (1,2). Human members of the family include c-IAP1, c-IAP2, XIAP, Survivin, Livin and NAIP. Overexpression of IAP family members, particularly Survivin and Livin, in cancer cell lines and primary tumors suggest an important role for these proteins in cancer progression (3-5). In general, the IAP proteins function through direct interactions to inhibit the activity of several caspases, including caspase-3, caspase-7 and caspase-9 (5,6). In addition, binding of IAP family members to the mitochondrial protein Smac blocks its interaction with caspase-9, thereby allowing the processing and activation of the caspase (7).

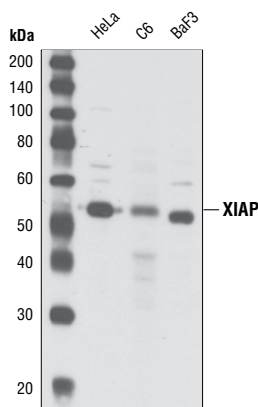
Specificity/Sensitivity: XIAP Antibody detects endogenous levels of total XIAP protein. The antibody does not cross-react with other inhibitors of apoptosis.

Source/Purification: Polyclonal antibodies are produced by immunizing rabbits with a synthetic peptide (KLH coupled) corresponding to residues surrounding amino acid 240 of human XIAP. Antibodies are purified by protein A and peptide affinity chromatography.

Selected Application References:

Guegan, C. et al. (2001) Recruitment of the mitochondrial-dependent apoptotic pathway in amyotrophic lateral sclerosis. *J. Neurosci.* 21 (17), 6569-6576. Application: W.

Rosato, R.R. et al. (2003) Simultaneous activation of the intrinsic and extrinsic pathways by histone deacetylase (HDAC) inhibitors and tumor necrosis factor-related apoptosis-inducing ligand (TRAIL) synergistically induces mitochondrial damage and apoptosis in human leukemia cells. *Mol. Cancer Ther.* 2, 1273-1284. Application: W.



Western blot analysis of extracts from HeLa (human), C6 (rat) and BaF3 (mouse) cell lines, using XIAP Antibody.

Background References:

- (1) Deveraux, Q.L. and Reed, J.C. (1999) *Genes Dev* 13, 239-52.
- (2) Deveraux, Q.L. et al. (1998) *EMBO J* 17, 2215-23.
- (3) Altieri, D.C. et al. (1999) *Lab Invest* 79, 1327-33.
- (4) Tamm, I. et al. (2000) *Clin Cancer Res* 6, 1796-803.
- (5) Kasof, G.M. and Gomes, B.C. (2001) *J Biol Chem* 276, 3238-46.
- (6) Deveraux, Q.L. et al. (1997) *Nature* 388, 300-4.
- (7) Deveraux, Q.L. et al. (1998) *EMBO J* 17, 2215-23.

Entrez-Gene ID #331
Swiss-Prot Acc. #P98170

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by Western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting 1:1000

Companion Products:

Survivin (6E4) Mouse mAb #2802
c-IAP2 (58C7) Rabbit mAb #3130
c-IAP1 Antibody #4952
Cleaved Caspase-7 (Asp198) Antibody #9491
Caspase-7 Antibody #9492
Cleaved Caspase-9 (Asp330) Antibody (Human Specific) #9501
Caspase-9 Antibody (Human Specific) #9502
Cleaved Caspase-9 (Asp315) Antibody (Human Specific) #9505
Cleaved Caspase-3 (Asp175) Antibody #9661
Caspase-3 Antibody #9662
Caspase-8 (1C12) Mouse mAb #9746
Phototope®-HRP Western Blot Detection System, Anti-rabbit IgG, HRP-linked Antibody #7071
Anti-rabbit IgG, HRP-linked Antibody #7074
Prestained Protein Marker, Broad Range (Premixed Format) #7720
Biotinylated Protein Ladder #7727
20X LumiGLO® Reagent and 20X Peroxide #7003
SignalSilence® XIAP siRNA (Human specific) #6446
SignalSilence® XIAP siRNA Kit (Human Specific) #6445

IMPORTANT: For Western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E—ELISA E-P—ELISA Peptide

Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebra fish B—bovine

Dg—dog Pg—pig Sc—S. cerevisiae All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.

Western Immunoblotting Protocol (Primary Antibody Incubation in Milk)

For Western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

A Solutions and Reagents

NOTE: Prepare solutions with Milli-Q or equivalently purified water.

- 1X Phosphate Buffered Saline (PBS)
- 1X SDS Sample Buffer:** 62.5 mM Tris-HCl (pH 6.8 at 25°C), 2% w/v SDS, 10% glycerol, 50 mM DTT, 0.01% w/v bromophenol blue or phenol red
- Transfer Buffer:** 25 mM Tris base, 0.2 M glycine, 20% methanol (pH 8.5)
- 10X Tris Buffered Saline (TBS):** To prepare 1 liter of 10X TBS: 24.2 g Tris base, 80 g NaCl; adjust pH to 7.6 with HCl (use at 1X).
- Nonfat Dry Milk (weight to volume [w/v])
- Blocking Buffer:** 1X TBS, 0.1% Tween-20 with 5% w/v nonfat dry milk; for 150 ml, add 15 ml 10X TBS to 135 ml water, mix. Add 7.5 g nonfat dry milk and mix well. While stirring, add 0.15 ml Tween-20 (100%).
- Wash Buffer:** 1X TBS, 0.1% Tween-20 (TBS/T)
- Bovine Serum Albumin (BSA)
- Primary Antibody Dilution Buffer:** 1X TBS, 0.1% Tween-20 with 5% nonfat dry milk; for 20 ml, add 2 ml 10X TBS to 18 ml water, mix. Add 1.0 g nonfat dry milk and mix well. While stirring, add 20 µl Tween-20 (100%).
- Phototope®-HRP Western Blot Detection System #7071:** Includes biotinylated protein ladder, secondary anti-rabbit (#7074) antibody conjugated to horseradish peroxidase (HRP), anti-biotin antibody conjugated to HRP, LumiGLO® chemiluminescent reagent and peroxide.
- Prestained Protein Marker, Broad Range (Premixed Format) #7720
- Biotinylated Protein Ladder Detection Pack #7727
- Blotting Membrane:** This protocol has been optimized for nitrocellulose membranes, which CST recommends. PVDF membranes may also be used.

B Protein Blotting

A general protocol for sample preparation is described below.

- Treat cells by adding fresh media containing regulator for desired time.
- Aspirate media from cultures; wash cells with 1X PBS; aspirate.
- Lyse cells by adding 1X SDS sample buffer (100 µl per well of 6-well plate or 500 µl per plate of 10 cm diameter plate). Immediately scrape the cells off the plate and transfer the extract to a microcentrifuge tube. Keep on ice.
- Sonicate for 10–15 seconds to shear DNA and reduce sample viscosity.
- Heat a 20 µl sample to 95–100°C for 5 minutes; cool on ice.
- Microcentrifuge for 5 minutes.
- Load 20 µl onto SDS-PAGE gel (10 cm x 10 cm).

NOTE: CST recommends loading prestained molecular weight markers (#7720, 10 µl/lane) to verify electrotransfer and biotinylated protein ladder (#7727, 10 µl/lane) to determine molecular weights.

- Electrotransfer to nitrocellulose or PVDF membrane.

C Membrane Blocking and Antibody Incubations

NOTE: Volumes are for 10 cm x 10 cm (100 cm²) of membrane; for different sized membranes, adjust volumes accordingly.

- (Optional) After transfer, wash nitrocellulose membrane with 25 ml TBS for 5 minutes at room temperature.
- Incubate membrane in 25 ml of blocking buffer for 1 hour at room temperature.
- Wash three times for 5 minutes each with 15 ml of TBS/T.
- Incubate membrane and primary antibody (at the appropriate dilution) in 10 ml primary antibody dilution buffer with gentle agitation overnight at 4°C.
- Wash three times for 5 minutes each with 15 ml of TBS/T.
- Incubate membrane with HRP-conjugated secondary antibody (1:2000) and HRP-conjugated anti-biotin antibody (1:1000) to detect biotinylated protein markers in 10 ml of blocking buffer with gentle agitation for 1 hour at room temperature.
- Wash three times for 5 minutes each with 15 ml of TBS/T.

D Detection of Proteins

- Incubate membrane with 10 ml LumiGLO® (0.5 ml 20X LumiGLO®, 0.5 ml 20X Peroxide and 9.0 ml Milli-Q water) with gentle agitation for 1 minute at room temperature.

NOTE: LumiGLO® substrate can be further diluted if signal response is too fast.

- Drain membrane of excess developing solution (do not let dry), wrap in plastic wrap and expose to x-ray film. An initial 10-second exposure should indicate the proper exposure time.

NOTE: Due to the kinetics of the detection reaction, signal is most intense immediately following LumiGLO® incubation and declines over the following 2 hours.