

Anti-Activated Caspase 3 (p20/p17 subunit) antibody, rabbit serum (ACP3)

74-102 100ul

Caspases are a family of cysteine proteases which play essential roles in apoptosis. Among them, Caspase 3 is a frequently activated death protease, catalyzing the specific cleavage of many key cellular proteins. Caspase 3 is synthesized as an inactive 32 kDa pro-enzyme which undergo proteolytic processing in response to apoptotic stimulation to produce the active form which consists of the p20/p17, and p12 subunits. Caspase 3 is the predominant caspase involved in the cleavage of Alzheimer amyloid precursor protein (APP), which is associated with neuronal death in Alzheimer's disease. An antibody (named ACP3) against activated caspase 3 was raised in rabbit. This antibody recognizes the active form of human caspase 3, p20/p17 subunit but does not recognize the proenzyme p32 (ref. 5).

Applications

1. Western blot (dilution: 1/3,000 - 1/1,000)
2. Immunocytochemistry (dilution: 1/1,000 - 1/500)
3. ELISA

These applications were confirmed in the laboratory of Prof. K, Yoshikawa of Osaka University (ref. 3).

Specification

Immunogen: Synthetic peptide corresponding to the caspase 3 cleavage site, 6 aa (CGIETD)

Specificity: Specific to the activated caspase 3 of human, mouse and rat. The antibody does not react with the proenzyme p32.

Form: Antiserum with 0.05% sodium azide

Storage: Shipped at 4°C and store at -20°C

Data Link: UniProtKB/Swiss-Prot [P42574](#) (CASP3_HUMAN)

References: This antibody was used in ref. 3 and 4.

1. Thornberry NA and Lazebnik Y (1998) "Caspases: enemies within" *Science* 281: 1312-1316 PMID: [9721091](#)
2. Uetsuki T *et al* (1999). "Activation of neuronal caspase-3 by intracellular accumulation of wild-type Alzheimer precursor protein" *J Neurosci* 19: 6955-6964 PMID: [10436052](#)
3. Nishimura I *et al* (2002) "Cell death induced by a caspase-cleaved transmembrane fragment of the Alzheimer amyloid precursor protein" *Cell Death Differ* 9: 199-208 PMID: [11840170](#)
4. Nishimura I *et al.* (2003) "Up regulation and antiapoptotic role of endogenous Alzheimer amyloid precursor protein in dorsal root ganglion neurons" *Exp Cell Res* 286: 241-251 PMID: [12749853](#)
5. Kouroku Y *et al* (1998) "Detection of activated caspase-3 by a cleavage site-directed antiserum during naturally occurring DRG neurons apoptosis." *Biochem Biophys Res Comm* 247: 780-784 PMID: [9647770](#)

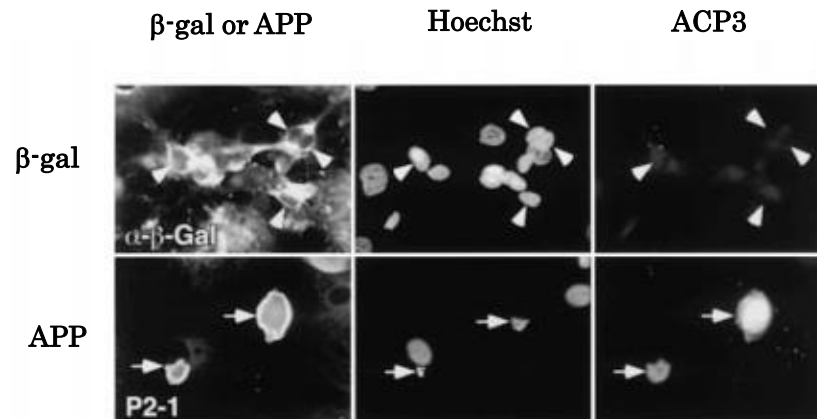


Fig.1 Immunocytochemistry for APP, chromosomal DNA, and activated caspase 3 subunits : Caspase 3 activation in neurons accumulating wild-type APP (ref.3). NT2 neurons (neurally differentiated human NT2 embryonic carcinoma cells) were infected with adenovirus vector expressing β -galactosidase (upper panel) or APP (lower panel), fixed 48 h later, and triply stained for the N-terminus of APP (with antibody P2-1) or β -gal (with antibody against β -gal), chromosomal DNA (Hoechst), and activated caspase 3 subunits (with antibody ACP3). Some neurons accumulating APP are strongly immunostained with ACP3 (arrows), whereas neurons accumulating β -gal are hardly labeled (arrowheads).

Related products:

- # [74-104](#) anti-APP (C-terminus) antibody
- # [74-106](#) anti-APP (N-terminus) antibody
- # [74-108](#) anti-APP (C-terminus of the caspase3-cleaved APP) antibody
- # [74-110](#) anti-APP Δ 31 (specific to C-terminal APP Δ 31) antibody