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Inspiration for Life Science

POLYCLONAL ANTIBODY

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Catalog No. 74-102EX

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

BACKGROUND

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).

Product type	Primary antibodies
Host	Rabbit
Source	Serum
Form	Antiserum added with 0.05% sodium azide
Volume	100µL
Concentration	
Immunogen	Synthetic peptide corresponding to the caspase 3 cleavage site, 6 aa (CGIETD)

Application notes

1. Western blotting (dilution: 1/3,000-1/1,000)
2. Immunocytechemistry (dilution: 1/1,000-1/500)
3. ELISA

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

Other applications have not been tested.

Optimal dilutions/concentrations should be determined by the end user.

Data Link UniProtKB/Swiss-Prot **P42574** (CASP3_HUMAN)

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

Storage Shipped at 4℃ and stored at -20℃

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 intracelular 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) "Upregulation 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."

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

Biochem Biophys Res Comm **247**: 780-784 PMID: 9647770

Related product

#74-104EX anti-APP (C-terminus) antibody,
#74-106EX anti-APP (N-terminus) antibody,
#74-108EX anti-APP (C-terminus of the caspase3-cleaved APP) antibody,
#74-110EX anti-APP Δ31 (specific to C-terminal APP Δ31) antibody

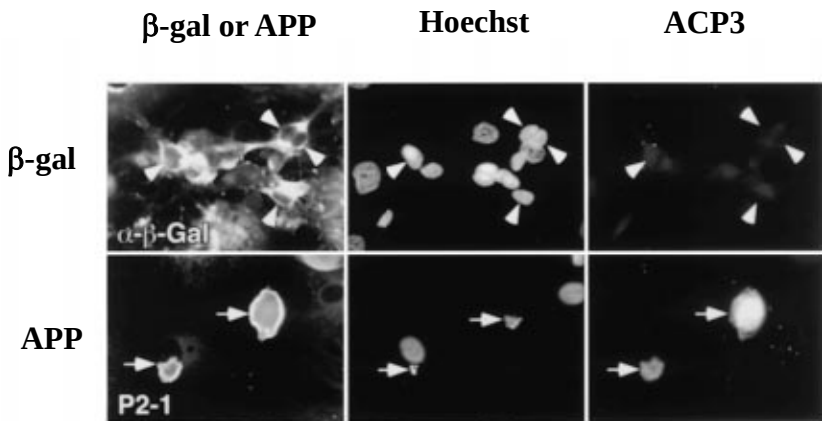

Fig.1 Immunocytochemistry for APP, chromosomal DNA, and activated caspase 3 subunits : Caspase 3 activation in neurons accumulating wild-type APP (ref.3).
NT2 neurons (neurally differentiated human NT2 embryonic carcinoma cells) were infected with adenovirus vector expressing β-galactosidase (upper panel) 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).

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