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

74-102 100 µl

Shipping and Storage: Shipped at 4℃ or -20℃ and stored at -20℃.

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

Form: Rabbit Antiserum added with 0.05% sodium azide.

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

Applications:

1. Western blotting (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).

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.

Data Link: Swiss-Prot P42574

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

Related products: #74-104 anti-APP (C-terminal) antibody, #74-106 anti-APP (N-terminal) antibody, #74-108 anti-APP (C-terminal of the caspase 3- cleaved APP) antibody, #74-110 anti-APP Δ 31 (specific to C-terminal APP Δ 31) antibody

To be continued.

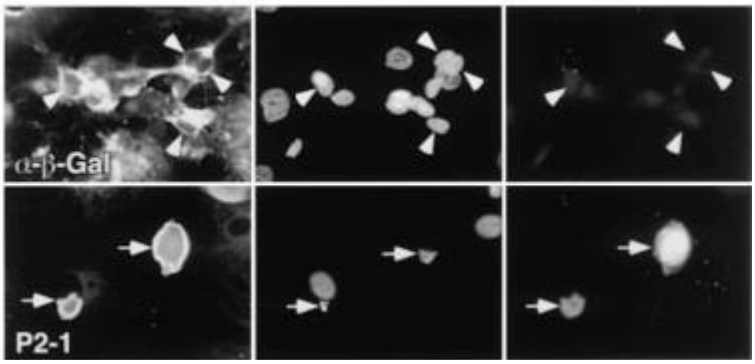

Fig.1 Immunocytochemistry for APP, chromosomal DNA, and activated caspase 3 subunits：Caspase 3 activation in neurons accumulating wild-type APP (ref.3). NT2 neurons (neurally differentiated human NT2 embryonic carcinoma cells) were infected with adenovirus vector expressing β-galactosidase (upper panel) 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). β-gal APP Hoechst ACP3 β-gal or APP