



## POLYCLONAL ANTIBODY

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**Catalog No. 74-104EX**

# Anti-Amyloid Precursor Protein (APP C-terminus) antibody,(AC1)

### BACKGROUND

The **Alzheimer amyloid precursor protein (APP)** is an integral membrane protein expressed in many tissues and concentrated in the synapses of neurons. Its primary function is not known, though it has been implicated as a regulator of synapse formation and neural plasticity. **APP** is best known and most commonly studied as the precursor molecule whose proteolysis generates amyloid beta ( $A\beta$ ), a 39- to 42-amino acid peptide whose amyloid fibrillar form is the primary component of amyloid plaques found in the brains of Alzheimer's disease patients. Isoform **APP695** lacking the protease inhibitor domain is the predominant form in neuronal tissues. An antibody (named AC1) against the C-terminus of human **APP** was raised in rabbit (ref.2).

<b>Product type</b>	Primary antibodies
<b>Host</b>	Rabbit
<b>Source</b>	Serum
<b>Form</b>	Antiserum added with 0.05% sodium azide
<b>Volume</b>	100 $\mu$ L
<b>Concentration</b>	
<b>Immunogen</b>	Synthetic peptide corresponding to the C-terminus (aa 671-695) of human APP695

<b>Application notes</b>	1. Western blotting (dilution: 1/3,000)      2. Immunocytochemistry (dilution: 1/1,000) 2. 3. Immunohistochemistry (dilution: 1/500)
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Other applications have not been tested.

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

**Data Link** UniProtKB/Swiss-Prot [P05067](#) (A4\_HUMAN)

**Reactivity** Specific to human, mouse and rat APP

**Storage** Shipped at 4°C and stored at -20°C

- References**
- This antibody was used in** ref.2, 3,4 and 5.
1. Kang HG *et al* (1987) "The precursor of Alzheimer's disease amyloid A4 protein resembles a cell-surface receptor" *Nature* **325**: 733-736 PMID: [2881207](#)
  2. Yoshikawa K *et al* (2002) "Degeneration in vitro of post-mitotic neurons overexpressing the Alzheimer amyloid protein precursor" *Nature* **359**: 64-67 (1992) PMID: [1301020](#)
  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. Nishimura I *et al* (1998) "Degeneration in vivo of rat hippocampal neurons by wild-type Alzheimer amyloid precursor protein overexpressed by



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adenovirus-mediated gene transfer" *J Neurosci* **18**: 2387-2396 PMID: [9502800](#)

**Related product**

#[74-102EX](#) anti-Activated caspase3 antibody

#[74-106EX](#) anti-APP (N-terminus) antibody

#[74-108EX](#) anti-APP (C-terminus of the caspase3-cleaved APP) antibody

#[74-110EX](#) anti-APP $\Delta$ 31 (specific to C-terminal APP $\Delta$ 31) antibody

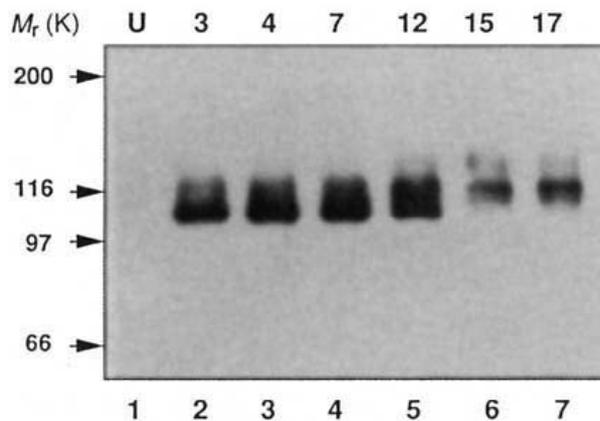


Fig.1 Endogenous expression of APP in mouse P19 cells during neural differentiation was analysed by Western blotting using this antibody (ref.2).

lane1, undifferentiated P19 cells (U); lane2, day 3; lane3, day4; lane4, day7; lane5, day12; lane6, day15; lane7, day17.

APP species with 105-120K markedly increased during days 3-12, but declined thereafter. On the other hand, APP species with 115-130K were detected on day 15 and 17.

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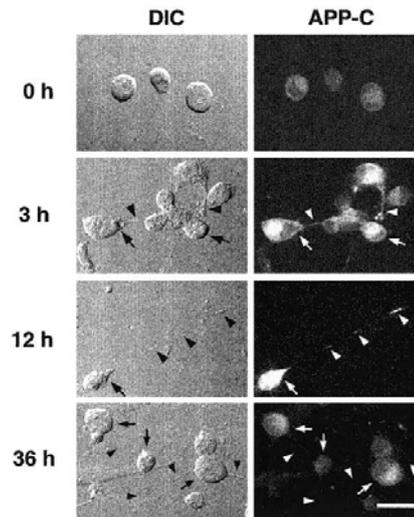


Fig.2 Immunocytochemistry for APP (ref 4).

Mouse dorsal root ganglion neurons were cultured in the presence of nerve growth factor (NGF), fixed at indicated time points, and immunostained for the C-terminus of APP with this antibody. Left panels are differential interference contrast images of the same fields. APP immunoreactivity was very low at 0 h but increased in neuronal somata (arrows), neurites (arrowheads) 3-12 h after NGF treatment, a period when neurites showed a marked outgrowth. APP immunoreactivity decreased at 36 h.

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