

Code No. 28021

**Anti-APP (Phosphorylated) Rabbit IgG Affinity Purify**Volume : 100  $\mu$ g  
Lot No : 0L-612

**Introduction** : Amyloid precursor protein (APP) is precursor protein of Amyloid  $\beta$  which is major constituent of senile plaque in Alzheimer's disease. It is known that there are three major isoforms, APP695, APP751 and APP770, and are generated from alternative splicing of common precursor mRNA (ref.1). Processing of APP occurs by two major pathways, non-amyloidogenic pathway and amyloidogenic pathway. The non-amyloidogenic pathway is mediated by  $\alpha$ - and  $\gamma$ -secretases and gives rise to a large fragment known as soluble APP  $\alpha$  (sAPP  $\alpha$ ) and a small 3 kDa peptide known as p3. On the other hand, the Amyloidogenic pathway is mediated by  $\beta$ - and  $\gamma$ -secretases and yields soluble APP  $\beta$  (sAPP  $\beta$ ) and Amyloid  $\beta$ . APP is expressed at many of tissue within an organism. It is supposed that the function of APP in neuron system is different from that in other organ. In nerve cells, APP containing an N- or O-type sugar chain modification (mature APP) is phosphorylated at the Thr668 position (APP695) by the actions of Cdk5 and c-Jun NH2-terminal kinase (JNK), which are nerve-specifically activated, and becomes translocated to the cell membrane and neuritis (ref. 2-4). It has been considered that the phosphorylation induces structural changes in the cytoplasmic domain of APP and influences A  $\beta$  production (ref.5-6). Regulation of the bonding of APP with FE65 is believed to be involved in information transmission (ref. 6).

**Antigen** : Synthetic peptide of Phosphorylated part of APP (DAAVpTPEE)

**Purification** : Purified with antigen peptide

**Form** : Lyophilized product from 1% BSA in PBS containing 0.05% NaN<sub>3</sub>

**How to use** : 1.0 mL deionized water will be added to the product (The conc. comes up 100  $\mu$ g /mL)

**Dilution** : PBS (pH7.4) containing 1% BSA, 0.05% NaN<sub>3</sub>

**Stability** : Lyophilized product, 5 years at 2 – 8 °C  
: Solution, 2 years at –20 °C

**Application** : This antibody can be used for western blotting in concentration of 2-5  $\mu$ g /mL.  
: This antibody can be used for immuno-precipitation in concentration of about 3  $\mu$ g /mL.

**Specificity** : Reacts with human and mouse, and not reacts with nonphosphorylated APP.

**Reference** : 1. Selkoe DJ. Normal and abnormal biology of the beta-amyloid precursor protein. Annu Rev Neurosci. 1994;17:489-517.  
2. Iijima K, Ando K, Takeda S, Satoh Y, Seki T, Itohara S, Greengard P, Kirino Y, Nairn AC, Suzuki T. Neuron-specific phosphorylation of Alzheimer's beta-amyloid precursor protein by cyclin-dependent kinase 5. J Neurochem. 2000 Sep;75(3):1085-91.  
3. Taru H, Suzuki T. Facilitation of stress-induced phosphorylation of beta-amyloid precursor protein family members by X11-like/Mint2 protein. J Biol Chem. 2004 May 14;279(20):21628-36.  
4. Ando K, Oishi M, Takeda S, Iijima K, Isohara T, Nairn AC, Kirino Y, Greengard P, Suzuki T. Role of phosphorylation of Alzheimer's amyloid precursor protein during neuronal differentiation. J Neurosci. 1999 Jun 1;19(11):4421-7.  
5. Lee MS, Kao SC, Lemere CA, Xia W, Tseng HC, Zhou Y, Neve R, Ahljianian MK, Tsai LH. APP processing is regulated by cytoplasmic phosphorylation. J Cell Biol. 2003 Oct 13;163(1):83-95.  
6. Nakaya T, Suzuki T. Role of APP phosphorylation in FE65-dependent gene transactivation mediated by AICD. Genes Cells. 2006 Jun;11(6):633-45.

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