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# GGA3 Antibody

Store at -20C  
#4167

**For Research Use Only. Not for Use in Diagnostic Procedures.**

<b>Applications:</b> W, IP	<b>Reactivity:</b> H M R	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 90	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #Q9NZ52	<b>Entrez-Gene Id:</b> 23163
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## Product Usage Information

### Application

Western Blotting  
Immunoprecipitation

### Dilution

1:1000  
1:50

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

## Specificity/Sensitivity

GGA3 Antibody detects endogenous levels of total GGA3 protein. GGA3 Antibody can also detect a carboxy-terminal GGA3 fragment derived from caspase-mediated cleavage. The antibody may also cross-react with other proteins of unknown origin.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asp520 of human GGA3. Antibodies are purified by protein A and peptide affinity chromatography.

## Background

GGA3 is a member of the GGA family of proteins which also includes GGA1 and GGA2. These proteins consist of four distinct segments: a VHS domain that binds the di-leucine sorting signal DXXLL; a GAT domain that binds Arf-GTP; a hinge region that recruits clathrin; and a GAE domain that has sequence similarity to  $\gamma$ -adaptin and recruits a number of proteins. Arf1-GTPase recruits GGA3 to the trans-Golgi network. GGAs sort acid hydrolases to the lysosome and are involved in transporting proteins containing the DXXLL signal from the Golgi complex to the endosome (1). During apoptosis or cerebral ischemia, GGA3 is cleaved by caspase-3 at Asp313, reducing GGA3 levels and lysosomal degradation of  $\beta$ -secretase (BACE). The resulting elevated amount and activity of BACE plays a role in amyloid- $\beta$  (A $\beta$ ) production, consistent with BACE elevation and A $\beta$  accumulation in Alzheimer's Disease (2).

## Background References

1. Bonifacino, J.S. (2004) *Nat Rev Mol Cell Biol* 5, 23-32.
2. Tesco, G. et al. (2007) *Neuron* 54, 721-37.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

## Applications Key

**W:** Western Blotting **IP:** Immunoprecipitation

## Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat

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