SYSY Antibodies

Rudolf-Wissell-Str. 28a
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: www.sysy.com

Abeta42

Cat.No. 218 703; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide were added for stabilization. For **reconstitution** add 50 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	**WB**: 1 : 1000 (ECL detection) (see remarks) **IP**: not tested yet **ICC**: not tested yet **IHC**: 1 : 100 up to 1 : 500 (see remarks) **IHC-P (FFPE)**: 1 : 100 (see remarks) **ELISA**: yes suitable only as capture antibody, cat. no. 218 211 is recommended as detector antibody. (see remarks)
Immunogen	Synthetic peptide corresponding to the carboxy terminal part of human Abeta42 (UniProt Id: P05067)
Reactivity	Reacts with: human (P05067), rat (P08592), mouse (P12023). Other species not tested yet.
Specificity	Specific for Abeta 42 with weak cross-reactivity to Abeta 40 in westernblots that is not apparent in ELISA tests.
Remarks	**WB**: Due to the small size of this protein/peptide, we recommend a 16% Schaegger gel system. Detects purified Abeta 42. Complex samples like brain extracts still have to be tested. Nitrocellulose membrane is recommended for blotting. Boil membrane after blotting in PBS for 3min. **IHC**: Antigen retrieval with formic acid is required. **IHC-P (FFPE)**: Antigen retrieval with citrate buffer pH 6, followed by formic acid treatment, is required for chromogenic detection. For chromogenic detection, an optimized AGR time of 20 minutes is recommended for best results. **ELISA**: Suitable as capture antibody for sandwich-ELISA. Please refer to the protocol for suitable detector antibodies. Mouse anti-Abeta38/40/42/43 antibody (cat. no. 218 211) can be used as detector antibody.

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Background

Amyloid deposits, also called plaques, of Alzheimer's patients consist of several protein components like the **a**myloid **beta**-peptides (**Abeta, Aβ**) 1-40/42/43 and additional C- and N-terminally modified fragments of Abeta as for instance Abeta pE3 and Abeta pE11.
An additional Abeta variant, **Abeta38**, is more soluble compared to other Abeta species and is not found in plaques of sporadic Alzheimer´s cases. However, it is detected in the blood-vessel walls of a subset of patients with severe cerebral amyloid angiopathy. It especially accumulates in brains of patients carrying mutations in the Abeta coding region.
Cleavage of **a**myloid **p**recursor **p**rotein APP by β- and γ- secretases results in the generation of the Aβ (βA4)peptide, whereas α-secretase cleaves within the Aβ sequence and prevents the formation of Abeta from APP.

Selected References for 218 703

Astrocytes infected with Chlamydia pneumoniae demonstrate altered expression and activity of secretases involved in the generation of β-amyloid found in Alzheimer disease.
Al-Atrache Z, Lopez DB, Hingley ST, Appelt DM
BMC neuroscience (2019) 201: 6. . **ICC; tested species: human**

Human Striatal Dopaminergic and Regional Serotonergic Synaptic Degeneration with Lewy Body Disease and Inheritance of APOE ε4.
Postupna N, Latimer CS, Larson EB, Sherfield E, Paladin J, Shively CA, Jorgensen MJ, Andrews RN, Kaplan JR, Crane PK, Montine KS, et al.
The American journal of pathology (2017) 1874: 884-895. . **FACS; tested species: human**

Axonal degeneration in an Alzheimer mouse model is PS1 gene dose dependent and linked to intraneuronal Aβ accumulation.
Christensen DZ, Huettenrauch M, Mitkovski M, Pradier L, Wirths O
Frontiers in aging neuroscience (2014) 6: 139. . **IHC-P**

N-truncated amyloid β (Aβ) 4-42 forms stable aggregates and induces acute and long-lasting behavioral deficits.
Bouter Y, Dietrich K, Wittnam JL, Rezaei-Ghaleh N, Pillot T, Papot-Couturier S, Lefebvre T, Sprenger F, Wirths O, Zweckstetter M, Bayer TA, et al.
Acta neuropathologica (2013) 1262: 189-205. . **IHC; tested species: human**

Deposition of C-terminally truncated Aβ species Aβ37 and Aβ39 in Alzheimer's disease and transgenic mouse models.
Reinert J, Richard BC, Klafki HW, Friedrich B, Bayer TA, Wiltfang J, Kovacs GG, Ingelsson M, Lannfelt L, Paetau A, Bergquist J, et al.
Acta neuropathologica communications (2016) 4: 24. . **IHC-P; tested species: mouse**

Neprilysin deficiency alters the neuropathological and behavioral phenotype in the 5XFAD mouse model of Alzheimer's disease.
Hüttenrauch M, Baches S, Gerth J, Bayer TA, Weggen S, Wirths O
Journal of Alzheimer's disease : JAD (2015) 444: 1291-302. . **IHC; tested species: mouse**

Aβ38 in the brains of patients with sporadic and familial Alzheimer's disease and transgenic mouse models.
Reinert J, Martens H, Huettenrauch M, Kolbow T, Lannfelt L, Ingelsson M, Paetau A, Verkkoniemi-Ahola A, Bayer TA, Wirths O
Journal of Alzheimer's disease : JAD (2014) 394: 871-81. . **IHC; tested species: human**

Abundance of $Aβ_{5}$-x like immunoreactivity in transgenic 5XFAD, APP/PS1KI and 3xTG mice, sporadic and familial Alzheimer's disease.
Guzmán EA, Bouter Y, Richard BC, Lannfelt L, Ingelsson M, Paetau A, Verkkoniemi-Ahola A, Wirths O, Bayer TA
Molecular neurodegeneration (2014) 9: 13. . **IHC; tested species: human**

Selected General References

Circulating immune complexes of Abeta and IgM in plasma of patients with Alzheimer's disease.
Marcello A et al. J Neural Transm (Vienna) (2009) PubMed:19415450

Access the online factsheet including applicable protocols at https://sysy.com/product/218703 or scan the QR-code.

FAQ - How should I store my antibody?

Shipping Conditions

- All SYSY antibodies and control proteins/peptides are shipped lyophilized (vacuum freeze-dried). In this form, they remain stable without loss of quality at ambient temperatures for several weeks.

Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at **4°C** before reconstitution. **Do not freeze lyophilized antibodies**. Temperatures below 0°C may impair performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long-term storage of lyophilized fluorophore-conjugates may cause aggregation.
- **Control peptides** should be stored at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- **Do not use frost-free ("no-frost") freezers.** These units periodically warm to remove ice buildup, causing freeze–thaw cycles that can damage antibodies.
- Store vials in areas with minimal temperature fluctuation - preferably toward the back of the freezer, not on the door.
- Aliquot reconstituted antibodies and store at –20°C to –80°C.
- Avoid very small aliquots (<20 µL), as evaporation and adsorption to tube surfaces can reduce antibody concentration and activity.
- Use the smallest practical storage vial to minimize surface area.
- Adding glycerol to a final concentration of 50% prevents freezing at -20°C, allowing storage in liquid form and effectively avoiding freeze–thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C

Monoclonal Antibodies

- **Ascites and hybridoma supernatant:** Store at -20°C to -80°C
  Prolonged storage at 4°C is not recommended, as proteases present in ascites may degrade antibodies.
- **Purified IgG:** Store at -20°C to -80°C
  Adding a carrier protein (e.g., BSA) enhances long-term stability.
  Many SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Polyclonal Antibodies

- **Crude antisera:** Can be stored at 4°C with antimicrobials added, but -20°C to -80°C is preferred
- **Affinity-purified antibodies:** Less stable than antisera; store at -20°C to -80°C
  Adding a carrier protein such as BSA improves long-term stability.
  Most SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Fluorescence-labeled Antibodies

- Store as a liquid with 1:1 (v/v) glycerol at -20°C, and protect from light exposure

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All purified SYSY antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the volume of deionized water specified in the corresponding datasheet. If a larger final volume is desired, first add the recommended amount of water, then adjust with PBS and, if needed, add a stabilizing carrier protein (e.g., BSA) to a final concentration of 2%. Some SYSY antibodies already contain albumin; please take this into account before adding additional carrier protein.

For complete reconstitution, carefully remove the vial cap. After adding water, briefly vortex the solution. To collect the liquid at the bottom of the vial, place the vial inside a 50 ml centrifuge tube padded with paper and centrifuge briefly.

- If desired, small amounts of azide or thimerosal may be added to prevent microbial growth. This is particularly recommended when storing an aliquot at 4°C.
- After reconstitution of fluorescence-labeled antibodies, add glycerol 1:1 (v/v) to achieve a final concentration of 50%. This prevents freezing at –20°C and keeps the antibody in liquid form, effectively avoiding freeze–thaw cycles.
- Glycerol may also be added to unlabeled primary antibodies as a general measure to prevent freeze–thaw damage.
- For further guidance, please refer to our **storage tips** and recommendations for reconstituted antibodies, control peptides, and control proteins.