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

Abeta38/40/42/43

Cat.No. 218 211BT; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized, labeled with Biotin.For **reconstitution** add 100 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 : 500 up to 1 : 1000 (see remarks) **IP**: not tested yet **ICC**: not tested yet **IHC**: 1 : 100 up to 1 : 500 (see remarks) **IHC_P**: 1 : 200 up to 1 : 500 **ELISA**: yes (see remarks)
Label	biotin
Clone	NT244
Subtype	IgG2b (κ light chain)
Immunogen	Synthetic peptide corresponding to AA 1 to 16 from human Abeta (UniProt Id: P05067)
Epitop	Epitop: AA 4 to 8 from human Abeta (UniProt Id: P05067)
Reactivity	Reacts with: human (P05067), mouse (P12023). Other species not tested yet.
Specificity	Specific for Abeta 38, 40, 42, 43.
Remarks	**WB**: Boil membrane after blotting for 3min. **IHC**: Antigen retrieval with formic acid is required. **ELISA**: Suitable as detector antibody with cat.no. 218 203, 218 403 and 218 703 as capture antibodies.

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, **Abeta 38**, 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 General References

Circulating immune complexes of Abeta and IgM in plasma of patients with Alzheimer's disease.
Marcello A, Wirths O, Schneider-Axmann T, Degerman-Gunnarsson M, Lannfelt L, Bayer TA
Journal of neural transmission (Vienna, Austria : 1996) (2009) 1167: 913-20. .

Immune response to Abeta-peptides in peripheral blood from patients with Alzheimer's disease and control subjects.
Baril L, Nicolas L, Croisile B, Crozier P, Hessler C, Sassolas A, McCormick JB, Trannoy E
Neuroscience letters (2004) 3553: 226-30. .

Dietary Cu stabilizes brain superoxide dismutase 1 activity and reduces amyloid Abeta production in APP23 transgenic mice.
Bayer TA, Schäfer S, Simons A, Kemmling A, Kamer T, Tepest R, Eckert A, Schüssel K, Eikenberg O, Sturchler-Pierrat C, Abramowski D, et al.
Proceedings of the National Academy of Sciences of the United States of America (2003) 10024: 14187-92. .

Correlative memory deficits, Abeta elevation, and amyloid plaques in transgenic mice.
Hsiao K, Chapman P, Nilsen S, Eckman C, Harigaya Y, Younkin S, Yang F, Cole G
Science (New York, N.Y.) (1996) 2745284: 99-102. .

Physical, morphological and functional differences between ph 5.8 and 7.4 aggregates of the Alzheimer's amyloid peptide Abeta.
Wood SJ, Maleeff B, Hart T, Wetzel R
Journal of molecular biology (1996) 2565: 870-7. .

Water-soluble Abeta (N-40, N-42) oligomers in normal and Alzheimer disease brains.
Kuo YM, Emmerling MR, Vigo-Pelfrey C, Kasunic TC, Kirkpatrick JB, Murdoch GH, Ball MJ, Roher AE
The Journal of biological chemistry (1996) 2718: 4077-81. .

Access the online factsheet including applicable protocols at https://sysy.com/product/218211BT or scan the QR-code.

FAQ - How should I store my antibody?

Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form 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. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C.

Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- **Crude antisera**: With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies**: Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein.
  For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.