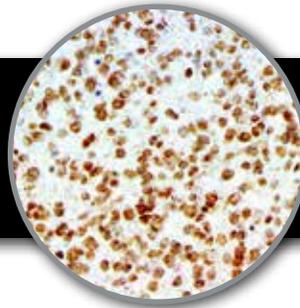


Amyloid Beta, RMab

Clone: RBT-A4

Rabbit Monoclonal



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Inset: IHC of Amyloid Beta on a FFPE Astrocytoma Tissue

Intended Use

For In Vitro Diagnostic Use.

This antibody is intended for use in Immunohistochemical applications on formalin-fixed paraffin-embedded tissues (FFPE), frozen tissue sections and cell preparations. Interpretation of results should be performed by a qualified medical professional.

Immunogen

Synthetic peptide corresponding to the C-terminus of the human Amyloid Beta protein.

Summary and Explanation

Amyloid beta (A β or Abeta) consists of peptides of 36–43 amino acids that are crucially involved in Alzheimer's disease as the main component of the amyloid plaques found in the brains of Alzheimer patients. The peptides result from the amyloid precursor protein (APP). Amyloid beta circulates in plasma, cerebrospinal fluid (CSF) and brain interstitial fluid (ISF) mainly as soluble A β 40. Amyloid beta is the main constituent of brain parenchyma and vascular amyloid; it contributes to cerebrovascular lesions and is neurotoxic.

Brain Amyloid beta is elevated in patients with sporadic Alzheimer's disease and is the main component of amyloid plaques. Similar plaques appear in some variants of Lewy body dementia and in inclusion body myositis, while Amyloid beta can also form the aggregates that coat cerebral blood vessels in cerebral amyloid angiopathy. The plaques are composed of a tangle of regularly ordered fibrillar aggregates called amyloid fibers, a protein fold shared by other peptides such as the prions associated with protein misfolding diseases.

The mechanism by which Amyloid beta may damage and kill neurons is by generating reactive oxygen species during the process of its self-aggregation. It has been reported that amyloid beta production follows a circadian rhythm, rising when an animal or a person is awake and falling during sleep. The wakefulness-promoting neuroprotein orexin has been shown to be necessary for the circadian rhythm of amyloid beta production. This is consistent with recent findings that chronic sleep deprivation is associated with early onset Alzheimer's disease.

Antibody Type	Rabbit Monoclonal	Clone	RBT-A4
Isotype	IgG	Reactivity	Paraffin, Frozen
Localization	Cytoplasmic, Nuclear	Control	Testis, Kidney, Pancreas, Salivary Galnd, Alzheimer's Disease
Species Reactivity	Human, Mouse, Rat		

Presentation

Amyloid Beta is a rabbit monoclonal antibody derived from cell culture supernatant that is concentrated, dialyzed, filter sterilized and diluted in buffer pH 7.5, containing BSA and sodium azide as a preservative.

Presentations

Catalog Num.	Antibody Type	Dilution	Volume/Qty
BSB 3441	Tinto Prediluted	Ready-to-Use	3.0 mL
BSB 3442	Tinto Prediluted	Ready-to-Use	7.0 mL
BSB 3443	Tinto Prediluted	Ready-to-Use	15.0 mL
BSB 3444	Concentrated	1:50 - 1:200	0.1 mL
BSB 3445	Concentrated	1:50 - 1:200	0.5 mL
BSB 3446	Concentrated	1:50 - 1:200	1.0 mL
BSB 3447	Control Slides	Not Applicable	5 slides

Precautions

1. For professional users only. Ensure results are interpreted by a medical professional.
2. This product contains sodium azide (NaN₃), a toxic chemical which may react with plumbing to form highly explosive build-ups of metal azides. Upon disposal, flush with large volumes of water to prevent sodium azide build-up.
3. Ensure proper handling procedures are used with reagent. Always wear proper laboratory equipment such as laboratory coat and gloves when handling reagents.
4. Unused solution should be disposed of according to local and federal regulations.
5. Do not ingest reagent. If reagent ingested, contact a poison control center immediately.
6. For complete recommendations for handling biological specimens please refer to the CDC document, "Guidelines for Safe Work Practices in Human and Animal Medical Diagnostic Laboratories" (8).

Storage

Store at 2-8 °C. Do not use after expiration date listed on package label. Temperature fluctuations should be avoided. Store appropriately when not in use, and avoid prolonged exposure to room temperature conditions.

Specimen Preparation

Paraffin sections: The antibody can be used on formalin-fixed paraffin-embedded (FFPE) tissue sections. Ensure tissue undergoes appropriate fixation to ensure best results. Pre-treatment of tissues with heat-induced epitope retrieval (HIER) is recommended using Bio SB ImmunoDNA Retriever with Citrate (BSB 0020-BSB 0023), ImmunoDNA Retriever with EDTA (BSB 0030-BSB 0033) or ImmunoDNA Digestor (BSB 0108-0112). See reverse side for complete protocol. Tissue should remain hydrated via use of Bio SB Immuno/DNA Washer solutions (BSB 0029 & BSB 0042).

Frozen sections and cell preparations: The antibody can be used for labeling acetone-fixed frozen sections and acetone-fixed cell preparations.

Staining Procedure

1. Cut and mount 3-5 micron formalin-fixed paraffin-embedded tissues on positive charged slides such as Bio SB Hydrophilic Plus Slides (BSB 7028).
2. Air dry for 2 hours at 58° C.
3. Deparaffinize, dehydrate and rehydrate tissues.
4. Subject tissues to heat epitope retrieval using a suitable retrieval solution such as ImmunoDNA Retriever with Citrate (BSB 0020-BSB 0023) or EDTA (BSB 0030-BSB 0033).
5. Any of three heating methods may be used:

a. TintoRetriever Pressure Cooker or Equivalent

Place tissues/slides in a staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA, and place in the pressure cooker. Add 1-2 inches of distilled water to the pressure cooker and turn heat to high. Incubate for 15 minutes. Open and immediately transfer slides to room temperature.

b. TintoRetriever PT Module or Water Bath Method

Place tissues/slides in a pre-warmed staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA at 95°-99° C. Incubate for 30-60 minutes.

c. Conventional Steamer Method

Place tissues/slides in a pre-warmed staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA in a Steamer, cover and steam for 30-60 minutes.

6. After heat treatment, transfer slides in ImmunoDNA Retriever with Citrate or EDTA to room temperature and let stand for 15-20 minutes.
7. For manual staining, perform antibody incubation at ambient temperature. For automated staining methods, perform antibody incubation according to instrument manufacturer's instructions.
8. Wash slides with IHC wash buffer or DI water.
9. Continue IHC staining protocol.

Recommended IHC Protocol

Step	ImmunoDetector AP/HRP	PolyDetector AP/HRP	PolyDetector Plus HRP
Peroxidase/AP Blocker	5 min.	5 min.	5 min
Primary Antibody	30-60 min.	30-60 min.	30-60 min.
1st Step Detection	10 min.	30-45 min.	15 min.
2nd Step Detection	10 min.	Not Applicable	15 min.
Substrate-Chromogen	5-10 min.	5-10 min.	5-10 min.
Counterstain	Varies	Varies	Varies

Product Limitations

Due to inherent variability present in immunohistochemical procedures (including fixation time of tissues, dilution factor of antibody, retrieval method utilized and incubation time), optimal performance should be established through the use of positive and negative controls. Results should be interpreted by a medical professional.

References

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3. Ghiso J, Frangione B. Amyloidosis and Alzheimer's disease. *Advanced Drug Delivery Reviews*. 2002; 54 (12): 1539-51.
4. Zlokovic BV, Frangione B (2003). Transport-clearance hypothesis for Alzheimer's disease and potential therapeutic implications. *Landes Bioscience*. 2003; 114-122.
5. Parker MH, Reitz AB (2000). "Assembly of β -Amyloid Aggregates at the Molecular Level". *Chemtracts-Organic Chemistry*. 2000;13 (1): 51-56.
6. Mattson MP (Aug 2004). "Pathways towards and away from Alzheimer's disease". *Nature*. 2004; 430 (7000): 631-9.
7. Kang JE, et al. Amyloid-beta dynamics are regulated by orexin and the sleep-wake cycle. *Science*. 2009; 326 (5955): 1005-7.
8. U.S. Department of Health and Human Services: Centers for Disease Control and Prevention. Guidelines for Safe Work Practices in Human and Animal Medical Diagnostic Laboratories. Supplement / Vol. 61, January 6, 2012.

Symbol Key / Légende des symboles/Erläuterung der Symbole

	EMERGO EUROPE Prinsessegracht 20 2514 AP The Hague The Netherlands		Storage Temperature Limites de température Zulässiger Temperaturbereich		Manufacturer Fabricant Hersteller		Catalog Number Référence du catalogue Bestellnummer
	In Vitro Diagnostic Medical Device Dispositif médical de diagnostic in vitro In-Vitro-Diagnostikum		Read Instructions for Use Consulter les instructions d'utilisation Gebrauchsanweisung beachten		Expiration Date Utiliser jusque Verwendbar bis		Lot Number Code du lot Chargenbezeichnung

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