Product Information
Amyloid-β (1-40) rat

For Research Purposes only. Not for use in Humans

Product	BAP-014
Sequence	DAEFGHDSGFEVRHQKLVFFAEDVGSNKGAIIGLMVGGVV Asp-Ala-Glu-Phe-Gly-His-Asp-Ser-Gly-Phe-Glu-Val-Arg-His-Gln-Lys-Leu-Val-Phe-Phe-Ala-Glu-Asp-Val-Gly-Ser-Asn-Lys-Gly-Ala-Ile-Ile-Gly-Leu-Met-Val-Gly-Gly-Val-Val
Synonyms	Beta-Amyloid (1-40) rat/mouse, rodent Aβ1-40, Abeta1-40
CAS	144409-98-3
MW / Formula	4233.8 / $C_{190}H_{291}N_{51}O_{57}S$
Counter ion	TFA
Description	Characteristic of Alzheimer disease (AD) is the accumulation of amyloid plaques in the brain. The major components of these plaques are 39-42 residue-long amyloid-β-peptides, which form insoluble fibrils via self-assembly. The amyloid-β-peptides are fragments of the broadly distributed, membrane-bound amyloid precursor protein APP, encoded on chromosome 21. They are formed from the proteolytic cleavage of APP by β- and γ-secretases. Cleavage occurs preferably after residue 40 or 42. The Aβ1–40 represents the most abundant isoform in the brain, while the Aβ1–42 shows a significant increase with certain forms of AD. The amyloid-β (1-40) is quite conserved. The rat/mouse amyloid-β (1-40) differs from the human amyloid-β (1-40) (BAP-012) at only three sequence positions (Arg-5→Gly; Tyr-10→Phe and His-13→Arg).
Packaging Reconstitution Storage	The peptide is provided as a lyophilised, colourless powder without any additives. It can be shipped at ambient temperature and should be stored at -20°C. Amyloid-β (1-40) can be reconstituted in H_2O (1 mg/ml) or DMSO. Through the use of a vortex mixer, homogeniser or sonicator, a homogenous solution can be prepared. If you use an ultrasonic bath, take care of the vial labels. After reconstitution, the solution should be aliquoted and stored at or below –20°C. Repeated thawing and freezing should be avoided.
Handling	Caution, not fully tested. Good laboratory technique should be employed in the safe handling of any peptide product. If you are not fully trained or are unaware of the hazards involved, do not use this compound! Caution: Do not take internally! Avoid contact by all modes of exposure. Wear appropriate laboratory attire including a lab coat, gloves, mask and safety glasses. Do not mouth pipette, inhale, ingest or allow coming into contact with open wounds. Wash thoroughly any area of the body which comes into contact with the product. Avoid accidental autoinoculation by exercising extreme care when handling in conjunction with any injection device. This product is intended for research purposes by qualified personnel only. It is not intended for use in humans or as a diagnostic agent. EMC microcollections GmbH is not liable for any damages resulting from misuse or handling of this product.
References	S.A. Funke, D. Willbold (2012) Peptides for Therapy and Diagnosis of Alzheimer's Disease. Current Pharmaceutical Design 18(6), 755-767. doi:10.2174/138161212799277752. M. Ahmed, J. Davis, D. Aucoin, T. Sato, S. Ahuja, S. Aimoto, J. I. Elliott, W. E. Van Nostrand, S. O. Smith (2010) Structural conversion of neurotoxic amyloid-beta(1-42) oligomers to fibrils. Nat. Struct. Mol. Biol. 17, 561-567. J.F. Poduslo, E.J. Gilles, M. Ramakrishnan, K.G. Howell, T.M. Wengenack, G.L. Curran, K.K. Kandimalla (2010) HH Domain of Alzheimer's Disease Aβ Provides Structural Basis for Neuronal Binding in PC12 and Mouse Cortical/Hippocampal Neurons. PLoS ONE, 5(1), e8813. http://doi.org/10.1371/journal.pone.0008813. T. Hartmann, S. C. Bieger, B. Brühl, P. J. Tienari, N. Ida, D. Allsop, G. W. Roberts, C. L. Masters, C. G. Dotti, K. Unsicker, K. Beyreuther (1997) Distinct sites of intracellular production for Alzheimer's disease A beta40/42 amyloid peptides. Nat. Med. 3, 1016-1020. L.Jr. Otvos, G.I. Szendrei, V.M. Lee, H.H. Mantsch (1993) Human and rodent Alzheimer beta-amyloid peptides acquire distinct conformations in membrane-mimicking solvents. Eur J Biochem 211, 249-257. Mori, H., Takio, K., Ogawara, M., and Selkoe, D.J. (1992) Mass spectrometry of purified amyloid beta protein in Alzheimer's disease, J. Biol Chem. 267, 17082-17086. C. Hilbich, B. Kisters-Woike, J. Reed, C.L. Masters, K. Beyreuther (1991) Human and rodent sequence analogs of Alzheimer's amyloid beta A4 share similar properties and can be solubilized in buffers of pH 7.4. Eur J Biochem 201:61-69.