



MEDICAL COVERAGE GUIDELINES  
SECTION: LABORATORY

ORIGINAL EFFECTIVE DATE: 08/19/10  
LAST REVIEW DATE: 01/22/19  
LAST CRITERIA REVISION DATE:  
ARCHIVE DATE:

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## CEREBROSPINAL FLUID AND URINARY BIOMARKERS OF ALZHEIMER DISEASE

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Non-Discrimination Statement and Multi-Language Interpreter Services information are located at the end of this document.

Coverage for services, procedures, medical devices and drugs are dependent upon benefit eligibility as outlined in the member's specific benefit plan. This Medical Coverage Guideline must be read in its entirety to determine coverage eligibility, if any.

This Medical Coverage Guideline provides information related to coverage determinations only and does not imply that a service or treatment is clinically appropriate or inappropriate. The provider and the member are responsible for all decisions regarding the appropriateness of care. Providers should provide BCBSAZ complete medical rationale when requesting any exceptions to these guidelines.

The section identified as "Description" defines or describes a service, procedure, medical device or drug and is in no way intended as a statement of medical necessity and/or coverage.

The section identified as "Criteria" defines criteria to determine whether a service, procedure, medical device or drug is considered medically necessary or experimental or investigational.

State or federal mandates, e.g., FEP program, may dictate that any drug, device or biological product approved by the U.S. Food and Drug Administration (FDA) may not be considered experimental or investigational and thus the drug, device or biological product may be assessed only on the basis of medical necessity.

Medical Coverage Guidelines are subject to change as new information becomes available.

For purposes of this Medical Coverage Guideline, the terms "experimental" and "investigational" are considered to be interchangeable.

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## **CEREBROSPINAL FLUID AND URINARY BIOMARKERS OF ALZHEIMER DISEASE (cont.)**

### **Description:**

Historically, Alzheimer's disease (AD) has been diagnosed by ruling out other possible causes of senile dementia. Diagnosis is verified by the presence of senile plaques, neurofibrillary tangles (NFTs), neuronal loss and the accumulation of amyloid beta protein (AB-42) upon postmortem examination of brain tissue. Tests include ADmark® CSF Analysis and AlzheimerAlert™.

The following biochemical markers have been investigated as a diagnostic tool of AD:

#### **Amyloid Beta Protein (AB-42):**

AB-42 is found in senile plaque. Low levels have been found in cerebrospinal fluid (CSF) of individuals with AD.

#### **Neural Thread Protein (NTP):**

NTP is found in neurofibrillary tangles. High levels have been found in CSF and/or urine of individuals with AD.

#### **Tau Protein:**

Tau protein is found in neurofibrillary tangles. High levels have been found in CSF of individuals with AD.

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### **Criteria:**

- Measurement of the following biochemical markers of Alzheimer's disease in cerebrospinal fluid or urine is considered **experimental or investigational** based upon:
  1. Insufficient scientific evidence to permit conclusions concerning the effect on health outcomes, and
  2. Insufficient evidence to support improvement of the net health outcome.

These markers include, *but are not limited to:*

- Amyloid beta protein
- Neural thread protein
- Tau protein



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### Resources:

Literature reviewed 01/30/18. We do not include marketing materials, poster boards and non-published literature in our review.

The BCBS Association Medical Policy Reference Manual (MPRM) policy is included in our guideline review. References cited in the MPRM policy are not duplicated on this guideline.

1. 2.04.14 BCBS Association Medical Policy Reference Manual. Cerebrospinal Fluid and Urinary Biomarkers of Alzheimer Disease. Re-issue date 12/14/2017, issue date 07/16/1999.
2. Czarna JM, Waldemar G, Heegaard NH. [Biochemical markers for Alzheimer disease]. *Ugeskr Laeger*. 2006;168(10):1010-1014.
3. Modrego PJ. Predictors of conversion to dementia of probable Alzheimer type in patients with mild cognitive impairment. *Curr Alzheimer Res*. 2006;3(2):161-170.
4. Proto C, Romualdi D, Cento RM, et al. Plasma levels of neuropeptides in Alzheimer's disease. *Gynecol Endocrinol*. 2006;22(4):213-218.



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### Non-Discrimination Statement:

Blue Cross Blue Shield of Arizona (BCBSAZ) complies with applicable Federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability or sex. BCBSAZ provides appropriate free aids and services, such as qualified interpreters and written information in other formats, to people with disabilities to communicate effectively with us. BCBSAZ also provides free language services to people whose primary language is not English, such as qualified interpreters and information written in other languages. If you need these services, call (602) 864-4884 for Spanish and (877) 475-4799 for all other languages and other aids and services.

If you believe that BCBSAZ has failed to provide these services or discriminated in another way on the basis of race, color, national origin, age, disability or sex, you can file a grievance with: BCBSAZ's Civil Rights Coordinator, Attn: Civil Rights Coordinator, Blue Cross Blue Shield of Arizona, P.O. Box 13466, Phoenix, AZ 85002-3466, (602) 864-2288, TTY/TDD (602) 864-4823, [crc@azblue.com](mailto:crc@azblue.com). You can file a grievance in person or by mail or email. If you need help filing a grievance BCBSAZ's Civil Rights Coordinator is available to help you. You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights electronically through the Office for Civil Rights Complaint Portal, available at <https://ocrportal.hhs.gov/ocr/portal/lobby.jsf>, or by mail or phone at: U.S. Department of Health and Human Services, 200 Independence Avenue SW., Room 509F, HHH Building, Washington, DC 20201, 1-800-368-1019, 800-537-7697 (TDD). Complaint forms are available at <http://www.hhs.gov/ocr/office/file/index.html>

### Multi-Language Interpreter Services:

Spanish: Si usted, o alguien a quien usted está ayudando, tiene preguntas acerca de Blue Cross Blue Shield of Arizona, tiene derecho a obtener ayuda e información en su idioma sin costo alguno. Para hablar con un intérprete, llame al 602-864-4884.

Navajo: Díí kwe'é atah nilinígíí Blue Cross Blue Shield of Arizona haada yit'éego bina'idílkidgo éí doodago Háida bíjá anilyeedígíí t'áadoo le'é yina'idílkidgo beehaz'áanii hólo díí t'áa hazaadk'ehjí háká a'doowołgo bee haz'ą doo baqah ilinígóó. Ata' halne'ígíí kojį' bich'į' hodilnih 877-475-4799.

Chinese: 如果您, 或是您正在協助的對象, 有關於插入項目的名稱 Blue Cross Blue Shield of Arizona 方面的問題, 您有權利免費以您的母語得到幫助和訊息。洽詢一位翻譯員, 請撥電話 在此插入數字 877-475-4799。

Vietnamese: Nếu quý vị, hay người mà quý vị đang giúp đỡ, có câu hỏi về Blue Cross Blue Shield of Arizona quý vị sẽ có quyền được giúp và có thêm thông tin bằng ngôn ngữ của mình miễn phí. Để nói chuyện với một thông dịch viên, xin gọi 877-475-4799.

Arabic:

إن كان لديك أو لدى شخص تساعد أسئلة بخصوص Blue Cross Blue Shield of Arizona، فلديك الحق في الحصول على المساعدة والمعلومات الضرورية بلغتك من دون أية تكلفة. للتحدث مع مترجم اتصل بـ 877-475-4799.

