



# Form D1b: Etiological Diagnosis and Biomarker Support

ADRC: \_\_\_\_\_ PTID: \_\_\_\_\_ Form date: \_\_\_/\_\_\_/\_\_\_\_\_ Visit #: \_\_\_\_\_ Examiner's initials: \_\_\_\_\_

Language:  
 1 English  
 2 Spanish

**INSTRUCTIONS:** This form is to be completed by the clinician for all participants, including cognitively unimpaired. For additional clarification and examples, see [UDS Coding Guidebook, Form D1b](#). Check only one box per question.

1. Were any biomarker results used to support the current etiological diagnosis?  
 (Consider any biomarker results from any time that may be clinically relevant)
- 0 No (**SKIP TO QUESTION 12**)  
 1 Yes (**CONTINUE TO QUESTION 2**)

## Section 1 – Biomarkers and imaging

Complete this section if any of the following biomarker measures were used to **support or exclude** a presumed etiological diagnosis, including unimpaired individuals who have biomarker characterization. Please complete the checklist below for each data source available and the related questions for each supporting data. Then complete **Section 2: Etiological Diagnosis**. This section is not intended to capture actual data values or register sample availability; instead this section's purpose is to record what information was used by the clinician (or at consensus) to inform an etiological diagnosis.

### Fluids

2. **Fluid Biomarkers** – Were fluid biomarkers used for assessing the etiological diagnosis?
- 0 No (**SKIP TO QUESTION 5**)  
 1 Yes, only blood-based biomarkers were used (**CONTINUE TO QUESTION 3, and SKIP QUESTIONS 4 – 4d**)  
 2 Yes, only CSF-based biomarkers were used (**SKIP TO QUESTION 4**)  
 3 Yes, both blood- and CSF-based biomarkers were used

Please use the following questions to indicate the results of the fluid biomarker test(s) used by the clinician (or at consensus) to determine the etiological diagnosis at this visit.

If a fluid biomarker was used to exclude an etiological diagnosis, select **0=Not consistent**. If a fluid biomarker was found to be consistent with a diagnosis, select **1=Yes, consistent**. If a fluid biomarker was found to be indeterminate, select **9**. In cases where one or more of the etiologies listed were not assessed using fluid biomarkers, select **8**.

3. Blood-based biomarkers		No, inconsistent	Yes, consistent	Indeterminate	Not assessed
3a.	Consistent with AD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
3b.	Consistent with FTLD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
3c.	Consistent with LBD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
3d.	Consistent with other etiology ( <b>SPECIFY</b> ): _____	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8

4. CSF-based biomarkers		No, inconsistent	Yes, consistent	Indeterminate	Not assessed
4a.	Consistent with AD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
4b.	Consistent with FTLD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
4c.	Consistent with LBD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
4d.	Consistent with other etiology ( <b>SPECIFY</b> ): _____	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8

**Section 1 – Biomarkers and imaging**

*continued...*

**Imaging**

5. **Imaging** – Was imaging used for assessing etiological diagnosis?  0 No (**SKIP TO QUESTION 8**)  
 1 Yes, only PET/SPECT imaging was used  
**(CONTINUE TO QUESTION 6, and SKIP QUESTIONS 7 – 7a3f)**  
 2 Yes, only MR/CT imaging was used (**SKIP TO QUESTION 7**)  
 3 Yes, both PET/SPECT and MR/CT imaging were used

Please use the following questions to indicate the results of the imaging used by the clinician (or at consensus) to determine the etiological diagnosis at this visit.

If imaging was used to exclude an etiological diagnosis, select **0=Not consistent**. If imaging was found to be consistent with a diagnosis, select **1=Yes, consistent**. If imaging was found to be indeterminate, select **9**. In cases where one or more of the etiologies listed were not assessed using imaging, select **8**.

**6. PET/SPECT**

- 6a. **Tracer-based PET** - Were tracer-based PET measures used in assessing an etiological diagnosis?  0 No (**SKIP TO QUESTION 6b**)  
 1 Yes, results were normal or abnormal  
 2 Yes, results were indeterminate

If used in diagnosis, indicate the results:

	No	Yes	Indeterminate	Not assessed
6a1. Elevated Amyloid	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
6a2. Elevated tau pathology	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8

- 6b. **FDG PET** - Was FDG PET data or information used to support an etiological diagnosis?  0 No (**SKIP TO QUESTION 6c**)  
 1 Yes, results were normal or abnormal  
 2 Yes, results were indeterminate

	No, inconsistent	Yes, consistent	Indeterminate	Not assessed
6b1. Consistent with AD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
6b2. Consistent with FTLD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
6b3. Consistent with LBD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
6b4. Consistent with other etiology ( <b>SPECIFY</b> ): _____	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8

- 6c. **Dopamine Transporter (DAT) Scan** - Was DAT Scan data or information used to support an etiological diagnosis?  0 No  
 1 Yes, results were normal or abnormal  
 2 Yes, results were indeterminate

- 6d. **Other tracer-based imaging** - Were other tracer-based imaging used to support an etiological diagnosis?  0 No (**SKIP TO QUESTION 7a**)  
 1 Yes, results were normal or abnormal  
 2 Yes, results were indeterminate

	No, inconsistent	Yes, consistent	Indeterminate	Not assessed
6d1. Consistent with AD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
6d2. Consistent with FTLD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
6d3. Consistent with LBD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
6d4. Consistent with other etiology ( <b>SPECIFY</b> ): _____	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8

**Section 1 – Biomarkers and imaging** *continued...*

**7. Structural Imaging**

**7a. Structural Imaging (i.e., MRI or CT) – Was structural imaging data or information used to support an etiological diagnosis?**  0 No (**SKIP TO QUESTION 8**)  
 1 Yes, results were normal or abnormal  
 2 Yes, results were indeterminate

		No, inconsistent	Yes, consistent	Indeterminate	Not assessed
7a1.	Atrophy pattern consistent with AD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
7a2.	Atrophy pattern consistent with FTLD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
7a3.	Consistent with Cerebrovascular disease (CVD)	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
If there is evidence for CVD on imaging, indicate the findings:		No	Yes	Indeterminate	Not assessed
7a3a.	Large vessel infarct(s)	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
7a3b.	Lacunar infarct(s)	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
7a3c.	Macrohemorrhage(s)	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
7a3d.	Microhemorrhage(s)	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
7a3e.	White matter hyperintensity	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
7a3e1.	If <b>Yes</b> , choose the severity: <input type="checkbox"/> 1 Moderate white-matter hyperintensity (CHS score 5-6) <input type="checkbox"/> 2 Extensive white-matter hyperintensity (CHS score 7-8+)				

**Other biomarker modalities (e.g., tissues, skin, retinal imaging, etc.)**

Please use the following questions to indicate the results of any additional biomarker modalities used by the clinician (or at consensus) to support the etiological diagnosis at this visit.

If a biomarker modality was used to exclude an etiological diagnosis, select **0=Not consistent**. If a biomarker modality was found to be consistent with a diagnosis, select **1=Yes, consistent**. If a biomarker was found to be indeterminate, select **9**. In cases where one or more of the etiologies listed were not assessed using a biomarker modality, select **8**.

**8. Other biomarker modality** - Was another biomarker modality used to support an etiological diagnosis?  0 No (**SKIP TO QUESTION 11**)  
 1 Yes, results were normal or abnormal  
 2 Yes, results were indeterminate  
**(SPECIFY):** \_\_\_\_\_

		No, inconsistent	Yes, consistent	Indeterminate	Not assessed
8a.	Consistent with AD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
8b.	Consistent with FTLD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
8c.	Consistent with LBD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
8d.	Consistent with other etiology ( <b>SPECIFY</b> ): _____	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8

**Section 1 – Biomarkers and imaging** *continued...*

9. **Other biomarker modality** - Was another biomarker modality used to support an etiological diagnosis? (SPECIFY): \_\_\_\_\_

0 No (SKIP TO QUESTION 11)  
 1 Yes, results were normal or abnormal  
 2 Yes, results were indeterminate

		No, inconsistent	Yes, consistent	Indeterminate	Not assessed
9a.	Consistent with AD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
9b.	Consistent with FTLD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
9c.	Consistent with LBD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
9d.	Consistent with other etiology (SPECIFY): _____	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8

10. **Other biomarker modality** - Was another biomarker modality used to support an etiological diagnosis? (SPECIFY): \_\_\_\_\_

0 No (SKIP TO QUESTION 11)  
 1 Yes, results were normal or abnormal  
 2 Yes, results were indeterminate

		No, inconsistent	Yes, consistent	Indeterminate	Not assessed
10a.	Consistent with AD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
10b.	Consistent with FTLD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
10c.	Consistent with LBD	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8
10d.	Consistent with other etiology (SPECIFY): _____	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 9	<input type="checkbox"/> 8

**Supportive genetics**

11. Is there an autosomal dominant pathogenic variant to support an etiological diagnosis?

0 No  
 1 Yes  
 9 Unknown/Not disclosed

## Section 2 – Etiological diagnoses

Using all the available data (i.e. clinical, cognitive, biomarker, etc) please provide an etiological diagnosis. For those with no biomarker data, enter a **presumed** etiological diagnosis.

**Must be filled out for all participants.** Indicate whether a given condition is a primary, contributing, or non-contributing cause of the observed impairment, based on the clinician’s best judgment. Select one or more etiological diagnoses from questions (below) as **Present**; all others will default to **Absent** in the NACC database. *Only one diagnosis should be selected as 1 = Primary.*

**For unimpaired participants:** Proceed using your center’s diagnostic philosophy to determine whether the etiology is present and primary, contributing, or non-contributing or leave the checkboxes blank.

Etiological Diagnoses	Present		Primary	Contributing	Non-contributing
12. Alzheimer’s disease	<input type="checkbox"/> <sub>1</sub>		12a. <input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
13. Lewy body disease	<input type="checkbox"/> <sub>1</sub>		13a. <input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
14. Frontotemporal lobar degeneration (FTLD)	<input type="checkbox"/> <sub>1</sub>				
If <b>present</b> , select all that apply:					
14a. Progressive supranuclear palsy (PSP)	<input type="checkbox"/> <sub>1</sub>		14a1. <input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
14b. Corticobasal degeneration (CBD)	<input type="checkbox"/> <sub>1</sub>		14b1. <input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
14c. FTLD with motor neuron disease	<input type="checkbox"/> <sub>1</sub>		14c1. <input checked="" type="checkbox"/> <sub>1</sub>	<input checked="" type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
14d. FTLD - not otherwise specified (NOS)	<input type="checkbox"/> <sub>1</sub>		14d1. <input checked="" type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
14e. If FTLD ( <b>QUESTION 14</b> ) is <b>present</b> , specify FTLD subtype: <input type="checkbox"/> <sub>1</sub> Tauopathy <input type="checkbox"/> <sub>2</sub> TDP-43 proteinopathy <input type="checkbox"/> <sub>3</sub> Other ( <b>SPECIFY</b> ): _____ <input type="checkbox"/> <sub>9</sub> Unknown					
15. Vascular brain injury (based on clinical and imaging evidence according to your Center’s standards)	<input type="checkbox"/> <sub>1</sub>		15a. <input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
16. Multiple system atrophy	<input type="checkbox"/> <sub>1</sub>		16a. <input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
17. Chronic traumatic encephalopathy (CTE)	<input type="checkbox"/> <sub>1</sub>		17a. <input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
17b. If CTE ( <b>QUESTION 17</b> ) is <b>present</b> , specify certainty: <input type="checkbox"/> <sub>1</sub> Suggestive CTE <input type="checkbox"/> <sub>2</sub> Possible CTE <input type="checkbox"/> <sub>3</sub> Probable CTE					
18. Down syndrome	<input type="checkbox"/> <sub>1</sub>		18a. <input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
19. Huntington’s disease	<input type="checkbox"/> <sub>1</sub>		19a. <input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
20. Prion disease (CJD, other)	<input type="checkbox"/> <sub>1</sub>		20a. <input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
21. Cerebral amyloid angiopathy	<input type="checkbox"/> <sub>1</sub>		21a. <input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
22. LATE: Limbic-predominant age-related TDP-43 encephalopathy	<input type="checkbox"/> <sub>1</sub>		22a. <input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>
23. Other ( <b>SPECIFY</b> ): _____	<input type="checkbox"/> <sub>1</sub>		23a. <input type="checkbox"/> <sub>1</sub>	<input type="checkbox"/> <sub>2</sub>	<input type="checkbox"/> <sub>3</sub>