

Variable Dictionary

Control Variables:

1. Demographic Variables:

- **Age:** Represents the age of the subject.
- **SexCode:** Gender of the subject.
- **Race:** Ethnicity or racial background of the subject.

2. Health-Related Variables:

- **BMI:** Body Mass Index, an indicator of body fatness calculated from height and weight.
- **Hippocampal_Vol:** Volume of the hippocampus, a region of the brain often associated with memory.
- **VentriCSF_Vol:** Volume of the ventricles within the brain; an indicator for brain shrinkage.
- **Note:** Hippocampal_Vol and VentriCSF_Vol are not highly correlated in this dataset (corr=-0.175).

3. APOE4 Related:

- **APOE:** Genotypic information related to the APOE gene.
- **ApoE_Status:** Indicates the presence (1) or absence (0) of the APOE4 allele.
- **apoE4dose:** Represents the dosage or number of E4 alleles (0, 1, or 2).

4. Cognitive Impairment Score Related:

- **Cognitive_Impairment_Binary_Score:** Binary score indicating cognitive impairment (yes or no).
- **CDR:** Clinical Dementia Rating, assessing the stage of dementia.
- **CDR_SOB:** Sum of boxes in CDR, providing a more detailed measure of dementia severity.

sAPPb Related Variables (Independent Variables):

These variables relate to the sAPPb protein and its derivatives. While some are directly measured, others are constructed based on these measurements.

1. **cct_sAPPb:** CSF Concentration of sAPPb.
2. **pdr_sAPPb:** Production rate of sAPPb.
3. **cct_ratio_sAPPb_sAPPa:** Ratio of sAPPb to sAPPa concentrations in CSF.
4. **pdr_ratio_sAPPb_sAPPa:** Ratio of sAPPb to sAPPa production rates.
5. **cct_ratio_sAPPb_Ab40:** Ratio of sAPPb to Ab40 concentrations in CSF.
6. **pdr_ratio_sAPPb_Ab40:** Ratio of sAPPb to Ab40 production rates.
7. **cct_ratio_sAPPb_totalAb:** Ratio of sAPPb to total Ab concentrations in CSF.
8. **pdr_ratio_sAPPb_totalAb:** Ratio of sAPPb to total Ab production rates.
9. **FTR_sAPPa:** Fractional Turnover Rate (FTR) related to sAPPa.
10. **FTR_sAPPb:** Fractional Turnover Rate (FTR) related to sAPPb.
11. **FCR_sAPPa:** Fractional Clearance Rate (FCR) related to sAPPa.
12. **FCR_sAPPb:** Fractional Clearance Rate (FCR) related to sAPPb.
13. **dlt_sAPPa:** Delay times for sAPPa molecule.
14. **dlt_sAPPb:** Delay times for sAPPb molecule.

15. FTR_ratio_sAPPb_sAPPa: Fractional Turnover Rate (FTR) ratio of sAPPb to sAPPa.
16. FCR_ratio_sAPPb_sAPPa: Fractional Clearance Rate (FCR) ratio of sAPPb to sAPPa.
17. dlt_ratio_sAPPb_sAPPa: Delay time ratio of sAPPb to sAPPa.
18. FTR_ratio_sAPPb_Ab40: Fractional Turnover Rate (FTR) ratio of sAPPb to Ab40.
19. FCR_ratio_sAPPb_Ab40: Fractional Clearance Rate (FCR) ratio of sAPPb to Ab40.
20. dlt_ratio_sAPPb_Ab40: Delay time ratio of sAPPb to Ab40.