**Supplemental Table 3:** Detailed description of mutations in PSEN-2.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Mutation**  **(Exon)** | **Ethnic origin** | **Frequency**  **(Families)** | **AAO**  **Range/mean**  **(Year)** | **Disease**  **Duration**  **Range/mean**  **(Year)** | **Phenotype in addition to Cognitive decline** | **Reference** |
| p.A85（Ex4） | Italy | 1 | 60-71/63.6 | 22-25/23.5 | Parkinsonism | [[1](#_ENREF_1)] |
| p.T122P (Ex5) | German | 2 | 45-50/47.9 | 3-28/12 | - | [[2](#_ENREF_2), [3](#_ENREF_3)] |
| p.T122R(Ex5) | Italy | 1 | 52-65/57.3 | 7-10/8.5 | Frontotemporal Dementia | [[4](#_ENREF_4)] |
| p.E126K(Ex5) | - | 1 | 49-49/49.0 | 23-23/23.0 | - | [[5](#_ENREF_5)] |
| p.N141Y(Ex5) | China | 1 | 43-49/46.0 | 12-12/12.0 | - | [[6](#_ENREF_6)] |
| p.N141I(Ex5) | Volga-German，German | 10 | 40-82/56.2 | 10-10/10.0 | - | [[2](#_ENREF_2), [7-9](#_ENREF_7)] |
| p.V148I(Ex5) | Spain | 1 | 71-71/71.0 | - | - | [[10](#_ENREF_10)] |
| p.M174V  (Ex6) | Iberia， Turkey | 4 | 52-60/55.3 | - | - | [[11](#_ENREF_11), [12](#_ENREF_12)] |
| p.S175C(Ex6) | Italy | 1 | 60-61/60.5 | 10.0 | - | [[13](#_ENREF_13)] |
| p.Q228L(Ex7) | Poland | 1 | 60-80/70.0 | - | - | [[14](#_ENREF_14)] |
| p.Y231C(Ex7) | Italy | 1 | 52-65/58.5 | 18.0 | Frontotemporal Dementia | [[15](#_ENREF_15)] |
| p.A237V(Ex7) | Caucasian | 1 | 87-87/87.0 | 8-8/8.0 | - | [[16](#_ENREF_16)] |
| p.L238P(Ex7) | German | 1 | 54-54/54.0 | 6-6/6.0 | - | [[9](#_ENREF_9)] |
| p.M239V  (Ex7) | France, Italy | 6 | 47-67/51.5 | 4-19 | - | [[17](#_ENREF_17), [18](#_ENREF_18)] |
| p.M239I(Ex7) | Italy | 1 | 44-58/50.7 | 7.0 | - | [[19](#_ENREF_19)] |
| p.T430M  (Ex12) | Spain | 1 | 45-64/56.3 | 10-11/10.7 | - | [[20](#_ENREF_20), [21](#_ENREF_21)] |

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