**Supplemental Table 1:** Detailed description of mutations in APP.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Mutation  (Exon) | Ethnic origin | Frequency  (Families) | AAO  Range/mean  (Years) | Disease Duration  Range/mean  (Years) | Phenotype in addition to Cognitive decline | Reference |
| dupAPP [ALZ254] | France | 1 | 52-55/53.5 | 6-10/8.0 | - | [[1](#_ENREF_1)] |
| dupAPP [EXT187] | France | 1 | 45-60 | 5-10 | - | [[1](#_ENREF_1)] |
| dupAPP [3] | Greece | 1 | 39-39/39.0 | - | - | [[2](#_ENREF_2)] |
| dupAPP [EXT144] | France | 1 | 42-64 | - | - | [[1](#_ENREF_1)] |
| dupAPP [F229] | France | 1 | 52-57/54.7 | 4.0 | CAA | [[3](#_ENREF_3)] |
| dupAPP [EXT145] | France | 1 | 48-52/50.0 | 0-6/4.0 | - | [[1](#_ENREF_1)] |
| dupAPP [2] | UK | 1 | 40-50/45.0 | - | Myoclonus | [[2](#_ENREF_2)] |
| dupAPP [1] | UK | 1 | 48-48/48.0 | 1-15/10.0 | - | [[2](#_ENREF_2)] |
| dupAPP [EXT773] | France | 1 | - | - | CAA | [[4](#_ENREF_4)] |
| dupAPP [PED3281] | Japan | 1 | 52-52/52.0 | - | - | [[5](#_ENREF_5)] |
| dupAPP [VI] | - | 1 | 43-50/47.0 | - | - | [[6](#_ENREF_6)] |
| dupAPP [F019] | France | 1 | 42-48/45.0 | 4-12/8.0 | CAA | [[3](#_ENREF_3)] |
| dupAPP [F009] | France | 1 | 46-57/51.4 | 3-14/7.8 | CAA | [[3](#_ENREF_3)] |
| dupAPP [F037] | France | 1 | 51-59/54.5 | 6-13/8.0 | CAA | [[3](#_ENREF_3)] |
| dupAPP [EXT054] | France | 1 | 41-55 | 10-13 | - | [[1](#_ENREF_1)] |
| dupAPP [EXT279] | France | 1 | 50-50/50.0 | 4-4/4.0 | CAA | [[1](#_ENREF_1)] |
| dupAPP [4] | UK | 1 | - | - | - | [[2](#_ENREF_2)] |
| dupAPP [EXT298] | France | 1 | 50-53 | 6-10 | - | [[1](#_ENREF_1)] |
| dupAPP [F028] | France | 1 | 45-49/47.3 | 5-14/8.7 | CAA | [[3](#_ENREF_3)] |
| dupAPP | France | 1 | 44-60/52.6 | 11.0 | CAA / Lewy Body Dementia | [[7](#_ENREF_7)] |
| dupAPP [Swedish] | Sweden | 1 | 40-60/52.0 | 2-20/11.0 | - | [[8](#_ENREF_8)] |
| dupAPP [5] | UK | 1 | 48-61/51.5 | 5-5/5.0 | - | [[2](#_ENREF_2)] |
| dupAPP [Finnish] | Finland | 1 | 40-56/48.7 | 3-17/9.0 | CAA | [[9](#_ENREF_9)] |
| dupAPP [1104] | Netherlands | 2 | 40-62/53.5 | 2-17/8.2 | CAA | [[10](#_ENREF_10)] |
| dupAPP [PED2945] | Japan | 1 | 53-53/53.0 | - | - | [[11](#_ENREF_11)] |
| dupAPP [BRB] | - | 1 | 49-52/50.3 | - | - | [[6](#_ENREF_6)] |
| APPKM670/671NL  (EX16) Swedish APP | Sweden | 1 | 45-61/55.0 | 7.0 | - | [[12](#_ENREF_12)] |
| p.D678N (EX16)  Tottori APP | Japan | 1 | 59-65/61.3 | 10.0 | - | [[13](#_ENREF_13), [14](#_ENREF_14)] |
| p.E682K (EX16)  Leuven APP | Belgium | 1 | 47-75/61.0 | 8.0 | - | [[15](#_ENREF_15)] |
| p.A692G (EX17)  Flemish APP | Netherlands | 2 | 35-61/45.9 | 10-11/10.7 | Cerebral Haemorrhage | [[16-18](#_ENREF_16)] |
| p.E693K (EX17)  Italian APP | Italy | 3 | - | - | - | - |
| p.E693Q (EX17)  Dutch APP | Netherlands | 4 | - | - | HCHWA-D | [[19-21](#_ENREF_19)] |
| p.E693G (EX17)  Arctic APP | Sweden | 2 | 55-75/59.7 | 6-11/7.2 | - | [[22](#_ENREF_22), [23](#_ENREF_23)] |
| p.E693del(EX17) ΔGlu693 | Asian (Japan) | 2 | 36-59/44.0 | 8-10/9.3 | Autosomal Recessive | [[24](#_ENREF_24)] |
| p.D694N (EX17)  Iowa APP | Spain USA, German | 2 | 58-66/62.0 | - | CAA / Cerebral Haemorrhage | [[25](#_ENREF_25), [26](#_ENREF_26)] |
| p.L705V (EX17) | Italy | 1 | 50-72/64.0 | 8.0 | CAA | [[27](#_ENREF_27)] |
| p.A713T (EX17)  [(g.275329G>A)](http://www.molgen.ua.ac.be/ADMutations/Default.cfm?MT=1&ML=0&Page=Mutations&ID=238) | Italy | 5 | 49-82/67.4 | 3-7 | CAA | [[28](#_ENREF_28), [29](#_ENREF_29)] |
| p.T714A (EX17)  Iranian APP | Iran, Poland | 3 | 44-55/50.2 | 2-12 | Epilepsy | [[30](#_ENREF_30), [31](#_ENREF_31)] |
| p.T714I (EX17)  Austrian APP | African American, Austria | 3 | 30-41/36.3 | 7-11/9.0 | - | [[31](#_ENREF_31), [32](#_ENREF_32)] |
| p.V715M (EX17)  French APP | Korea, Italy | 2 | 41-60/47.0 | 6-10/8.0 | - | [[33](#_ENREF_33)] |
| p.V715A (EX17)  German APP | Germany,Poland, UK | 3 | 42-55/45.3 | - | - | [[34](#_ENREF_34)] |
| p.I716V (EX17)  Florida APP | - | 1 | 53-53/53.0 | 10.0 | - | [[35](#_ENREF_35)] |
| p.I716F (EX17) | Iberia | 1 | 31-31/31.0 | 2.0 | - | [[36](#_ENREF_36)] |
| p.I716T (EX17) | Italy | 1 | 36-36/36.0 | 7.0 | - | [[37](#_ENREF_37)] |
| p.I716M (EX17) | Germany | 1 | 65-65/65.0 | 5-5/5.0 | - | [[38](#_ENREF_38)] |
| p.V717I (EX17)  London APP | Caucasian  Japan, Thailand | 38 | 33-65/52.0 | 5-14/10.0 | - | [[39](#_ENREF_39)] |
| p.V717L (EX17)  Indiana-2 | German, UK | 7 | 35-59/46.8 | 9-18/9.1 | - | [[40](#_ENREF_40), [41](#_ENREF_41)] |
| p.V717F (EX17)  Indiana | Caucasian | 3 | 38-52/41.2 | 6-8/7.3 | - | [[42](#_ENREF_42), [43](#_ENREF_43)] |
| p.V717G (EX17) | UK | 2 | 48-58/ | - | - | [[44](#_ENREF_44), [45](#_ENREF_45)] |
| p.L723P (EX17)  Australian APP | Australi, France, Serbia | 3 | 45-57/50.5 | 3-4 | - | [[1](#_ENREF_1), [46](#_ENREF_46), [47](#_ENREF_47)] |
| p.K724N (EX17)  Belgian APP | Belgium | 1 | 55-55/55.0 | 1.0 | - | [[48](#_ENREF_48)] |

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