**Supplementary Material**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Human** | T | G | N | S | K | G | K | D | I | N | T | I | K | S | L | R | V | L | R | V | L | **R** | P | L | K | T | I | K | R | L | P | K | L | K |
| **Chimp** | T | G | N | S | K | G | K | D | I | N | T | I | K | S | L | R | V | L | R | V | L | **R** | P | L | K | T | I | K | R | L | P | K | L | K |
| **Olive baboon** | T | G | N | S | K | G | K | D | I | N | T | I | K | S | L | R | V | L | R | V | L | **R** | P | L | K | T | I | K | R | L | P | K | L | K |
| **Rat** | T | G | N | S | K | G | K | D | I | N | T | I | K | S | L | R | V | L | R | V | L | **R** | P | L | K | T | I | K | R | L | P | K | L | K |
| **Mouse** | T | G | N | S | K | G | K | D | I | N | T | I | K | S | L | R | V | L | R | V | L | **R** | P | L | K | T | I | K | R | L | P | K | L | K |
| **Dog** | T | G | N | S | K | G | K | D | I | N | T | I | K | S | L | R | V | L | R | V | L | **R** | P | L | K | T | I | K | R | L | P | K | L | K |
| **Pig** | T | G | N | S | K | G | K | D | I | N | T | I | K | S | L | R | V | L | R | V | L | **R** | P | L | K | T | I | K | R | L | P | K | L | K |
| **Frog** | S | G | F | S | K | G | K | D | I | S | T | I | K | S | L | R | V | L | R | V | L | **R** | P | L | K | T | I | K | R | L | P | K | L | K |
| **Tetraodon** | S | G | F | H | F | G | D | K | G | F | L | R | R | P | I | K | I |  | T | L | L | **H** | D | I | F | V | S | Q | R | L | P | K | L | K |
| **Zebrafish** | T | G | S | G | K | G | K | D | I | S | I | I | K | S | L | R | V | L | R | V | L | **R** | P | L | K | T | I | K | R | L | P | K | L | K |
| **Fruitfly** | S | G | S | S | A | G | Q | N | L | S | T | I | K | S | L | R | V | L | R | V | L | **R** | P | L | K | T | I | K | R | V | P | K | L | K |
| **C. elegans** | T | E | N | S | A | G | K | N | L | N | T | I | K | S | L | R | V | L | R | V | L | **R** | P | L | K | T | I | K | R | I | P | K | L | K |
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Orthologues of the alpha 1A subunit of the voltage-dependent, P/Q type calcium channel encoded by *CACNA1A* across 12 species. The region of the novel missense mutation is marked in bold letters between the two red lines. The figure shows that the amino acid structure is highly conserved across species in the region where the mutation occurred.