**Supplementary Table 1.** Antibody sources and conditions

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| Antibody | Host | DilutionIF/IHC WB | Source (reference) |
| Has1 | Rabbit | 1:100 1:1000 | Sigma-Aldrich (SAB1302705) |
| Has2 | Rabbit | 1:100 1:1000 | Boster Biotechnology (BA3397-1) |
| Has3 | Rabbit | 1:1000 | Proteintech (15609) |
| Has3 | Rabbit | 1:100 | Santa Cruz (sc-66917) |
| Tau | Mouse | 1:100 | Life Technologies (AHB0042) |
| Tau | Rabbit | 1:1000 | Sigma-Aldrich (T6402) |
| NEFH | Mouse | 1:100 | Boster Biotechnology (BM0100) |
| NeuN | Mouse | 1:100 | EMD Millpore (MAB377) |
| HA | Goat | 1:500 | Abcam (ab53842) |
| Alexa Fluor® 594 Goat Anti-Rabbit IgG | Goat | 1:500 | Jackson ImmunoResearch(111-585-144) |
| Alexa Fluor® 488 Goat Anti-Mouse IgG | Goat | 1:250 | Jackson ImmunoResearch(115-545-003) |