

**Table S1: Primary antibodies used**

Target protein	Species	Mono/polyclonal	Dilution used	Vendor	Catalogue no.
MAP2	Guinea pig	Polyclonal	1:2000	Synaptic systems	188004
HOMER 1B/C	Rabbit	Polyclonal	1:1000	Synaptic systems	160022
SYNAPTOPHYSIN	Mouse	Monoclonal	1:1000	Synaptic systems	101011
TAU	Guinea pig	Polyclonal	1:2000	Synaptic systems	314004
ANKYRIN G	Mouse	Monoclonal	1:200	Invitrogen	338800
CLN5	Rabbit	Monoclonal	1:1000	Abcam	170899
ACTIN	Mouse	Monoclonal	1:2000	Novus Biologicals	NB100-74340

**Table S2: Secondary antibodies used**

Target protein	Species	Dilution used	Vendor	Catalogue no.
<i>Anti Guinea Pig IgG (H+L) Highly Cross-Adsorbed Secondary Antibody, Alexa Fluor 647</i>	Goat	1:1000	Invitrogen	A-21450
Anti-Rabbit IgG (H+L) Highly Cross-Adsorbed Secondary Antibody, Alexa Fluor 488	Goat	1:1000	Invitrogen	A11034
<i>Anti-Mouse IgG (H+L) Highly Cross-Adsorbed Secondary Antibody, Alexa Fluor 594</i>	Goat	1:1000	Invitrogen	A11032
Anti-Mouse IgG (H+L) Highly Cross-Adsorbed Secondary Antibody, Alexa Fluor 488	Goat	1:1000	Invitrogen	A11029
IRDye® 680RD Anti-Mouse IgG Secondary Antibody	Goat	1:20000	Licor	926-68070
IRDye® 800RD Anti-Rabbit IgG Secondary Antibody	Goat	1:20000	Licor	926-32211

**Table S3: qPCR probes used**

Target protein	Unique assay ID	Dilution used	Vendor	Catalogue no.
<i>CLN5</i>	qHsaCEP0050205	1:20	Bio-Rad	10031228
<i>GAPDH</i>	qHsaCEP0041396	1:20	Bio-Rad	10031226