Fig. 1A

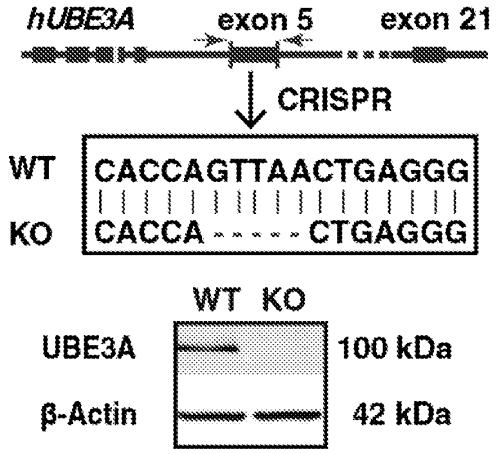


Fig. 1B

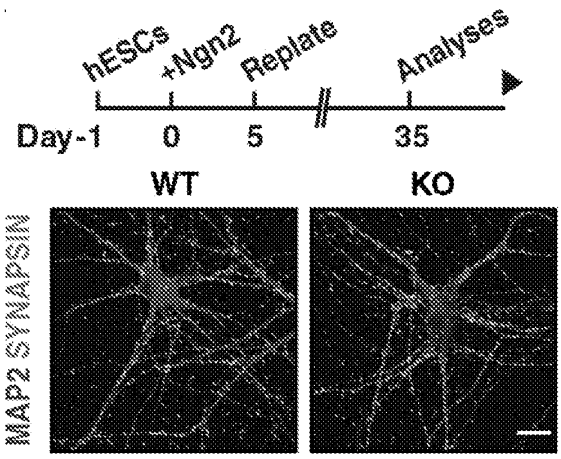


Fig. 1C

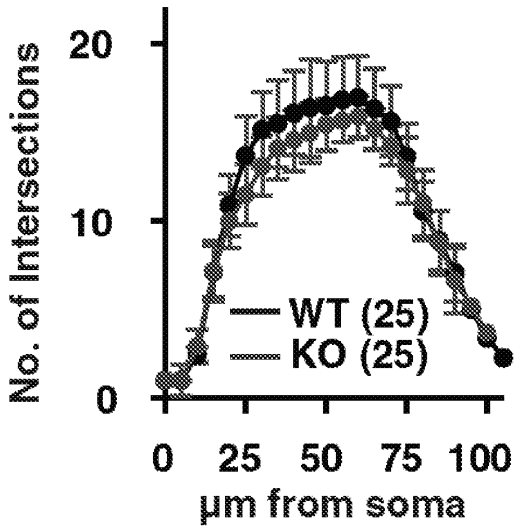


Fig. 1D

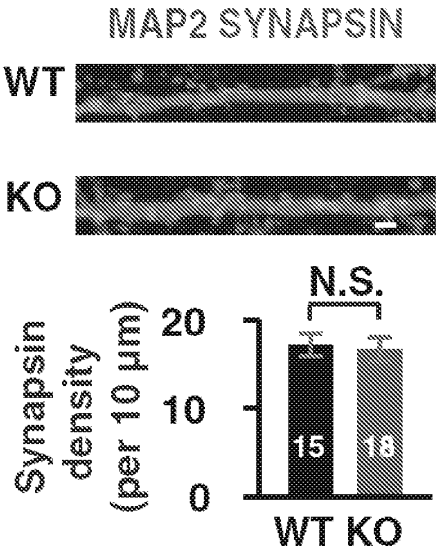


Fig. 1E

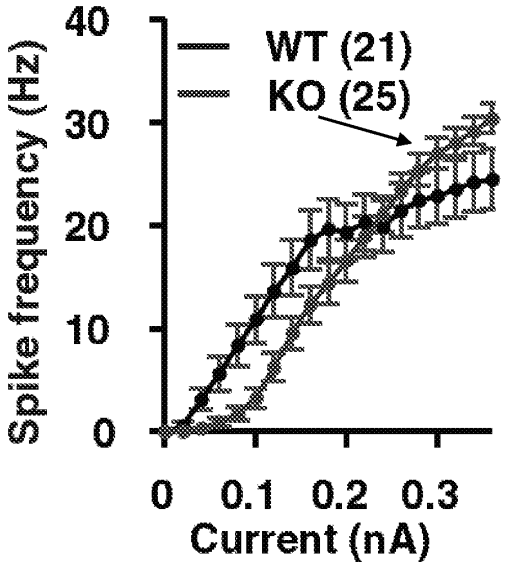


Fig. 1F

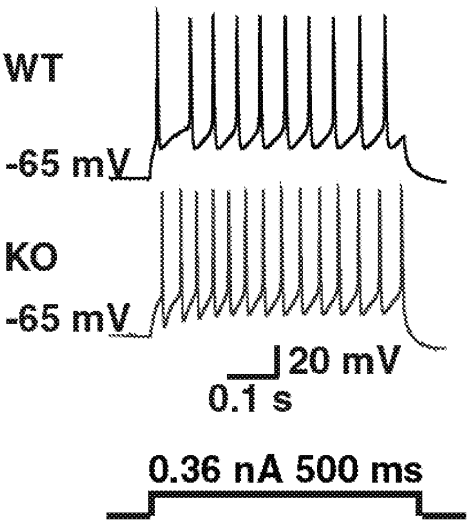


Fig. 1G

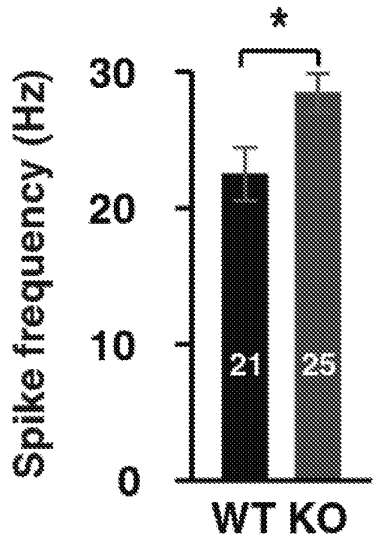


Fig. 1H

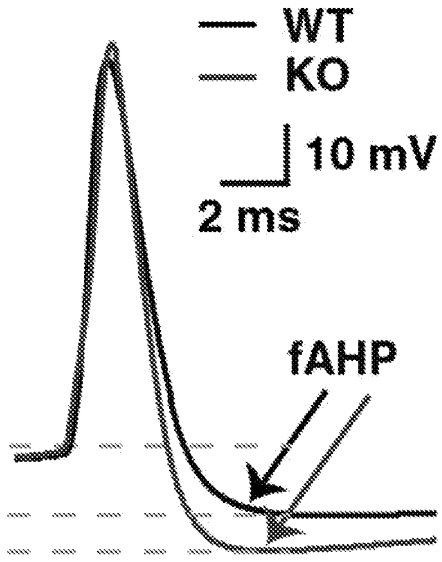


Fig. 1I

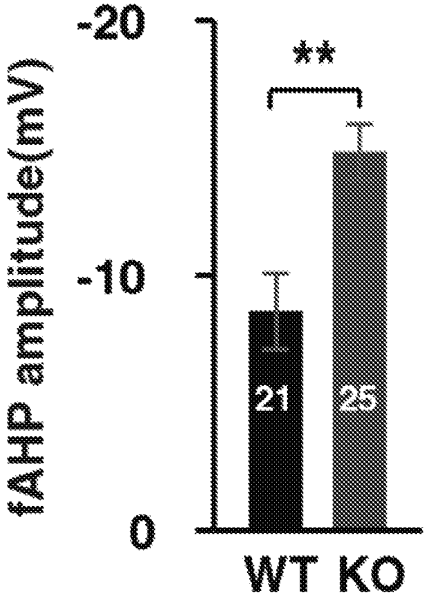


Fig. 1J

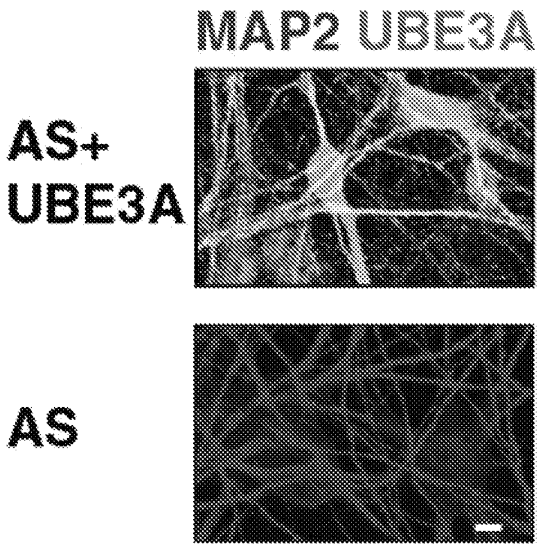


Fig. 1K

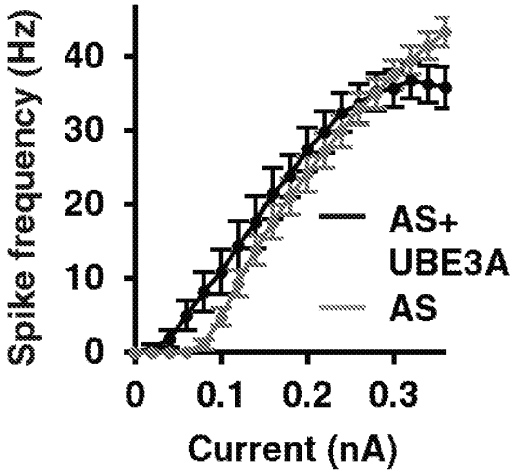


Fig. 1L

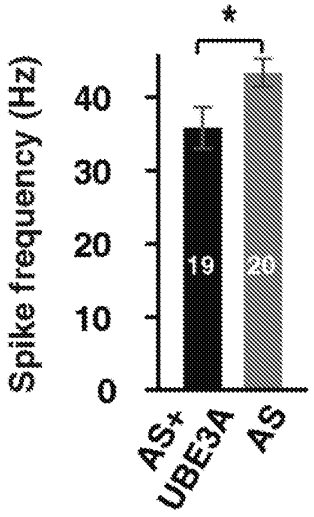


Fig. 1M

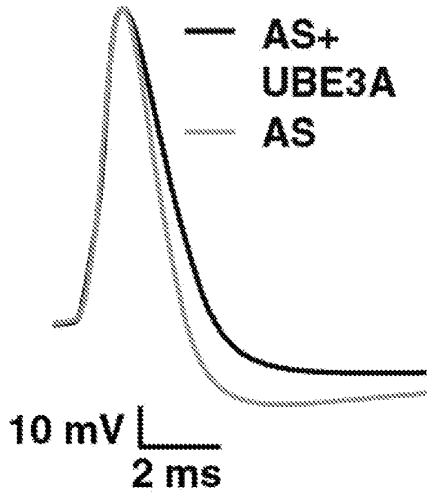


Fig. 1N

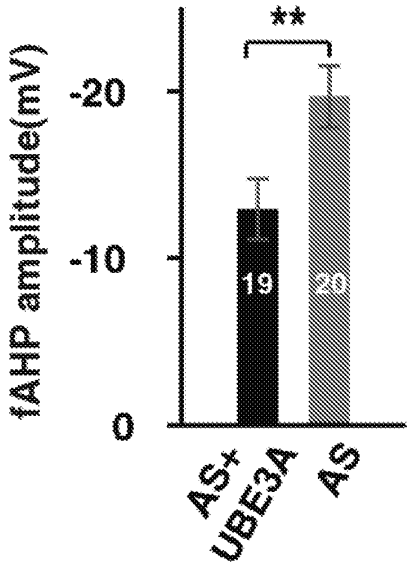


Fig. 2A

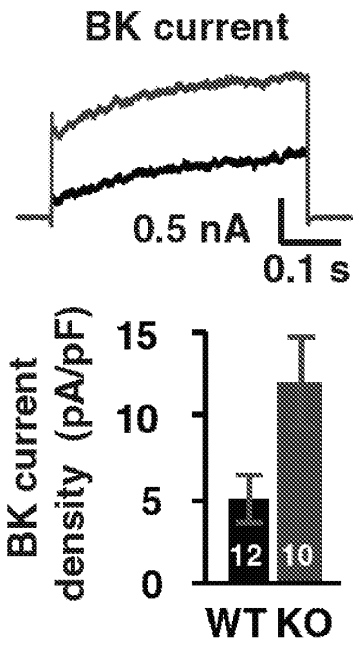


Fig. 2B

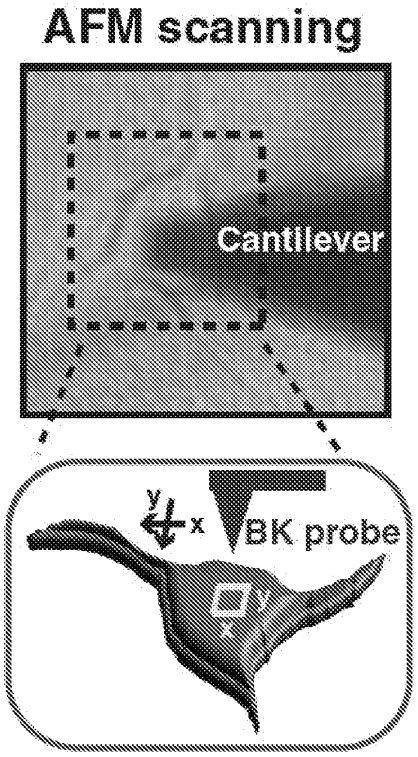


Fig. 2C

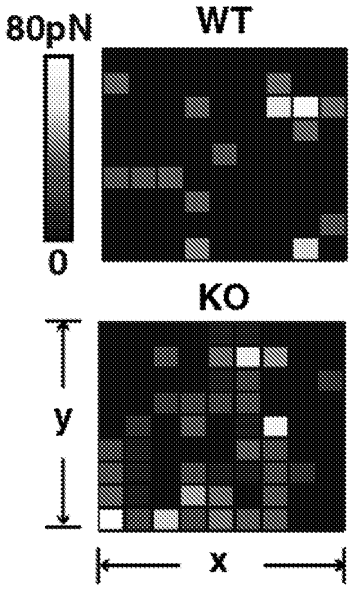


Fig. 2D

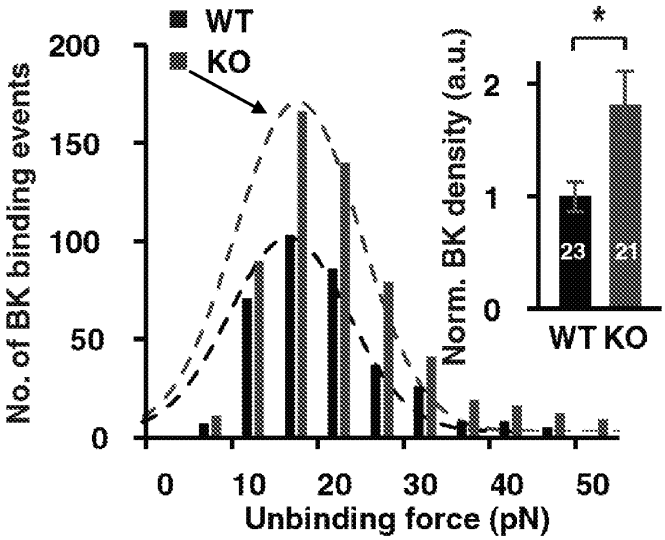


Fig. 2E

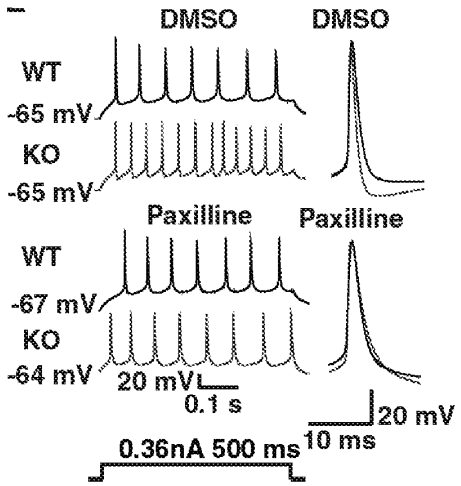


Fig. 2F

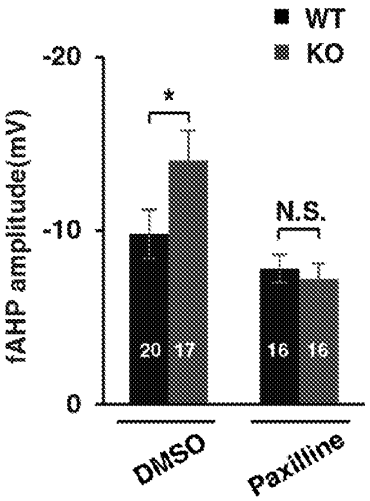


Fig. 2G

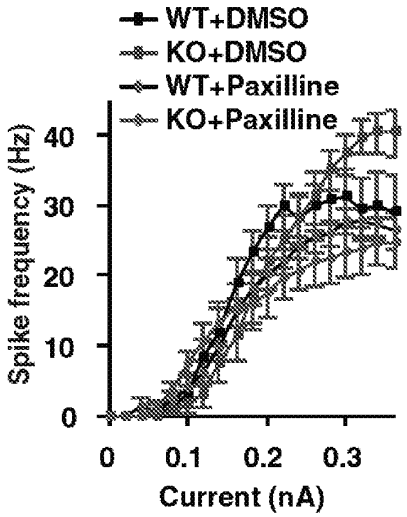


Fig. 2H

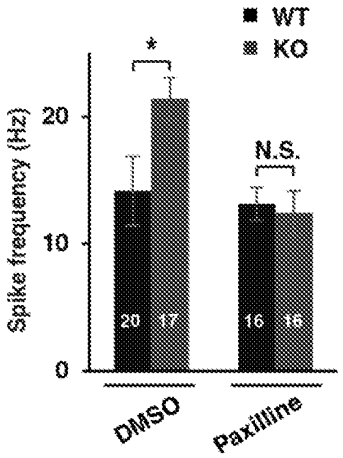


Fig. 2I

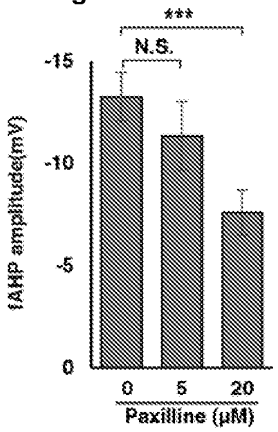


Fig. 3A

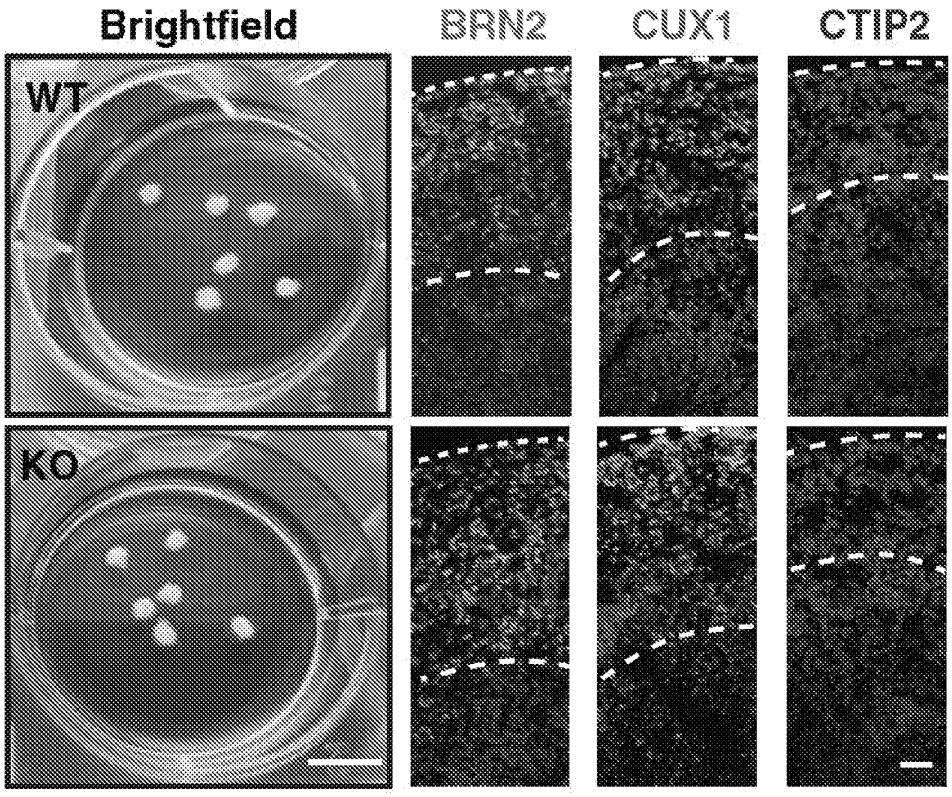


Fig. 3B

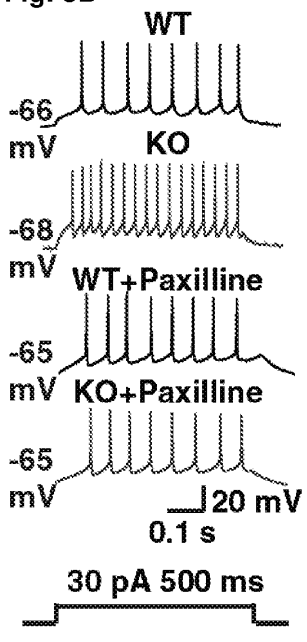


Fig. 3C

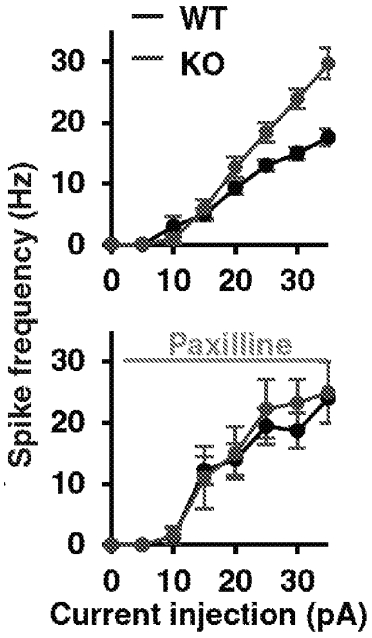


Fig. 3D

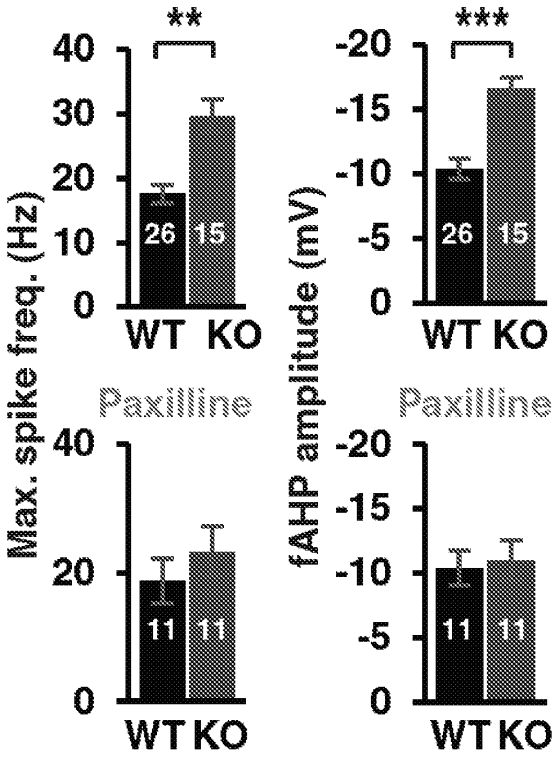

**
***
Max. spike freq. (Hz)
fAHP amplitude (mV)
40
30
20
10
0
-20
-15
-10
-5
0
26
15
WT
KO
Paxilline
11
11

Fig. 3E

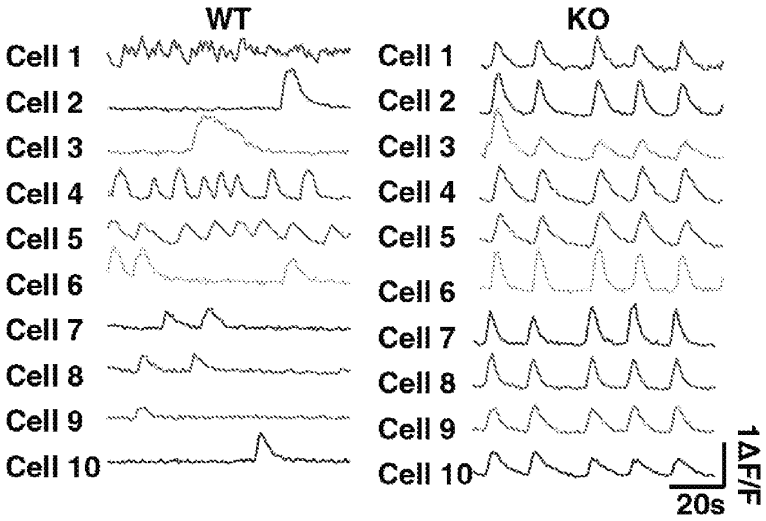

WT
KO
Cell 1
Cell 2
Cell 3
Cell 4
Cell 5
Cell 6
Cell 7
Cell 8
Cell 9
Cell 10
1ΔF/F
20s

Fig. 3F

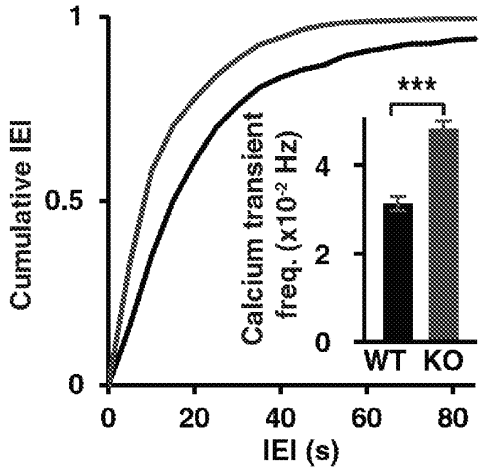


Fig. 3G

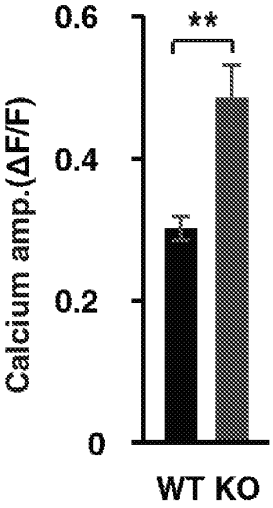


Fig. 3H

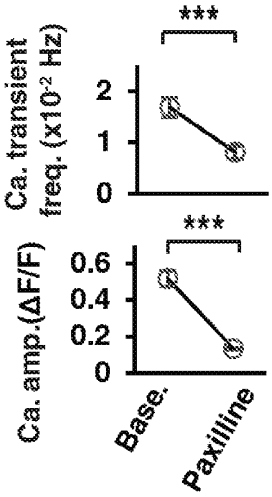


Fig. 3I

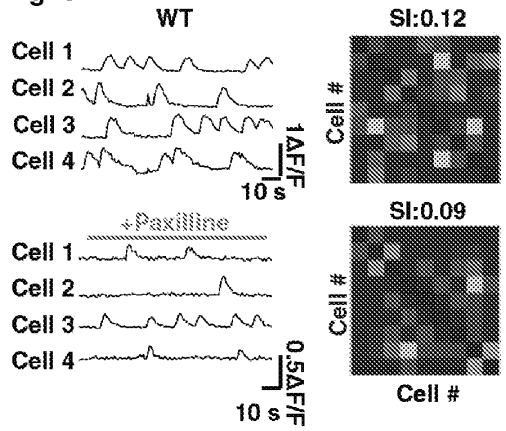


Fig. 3J

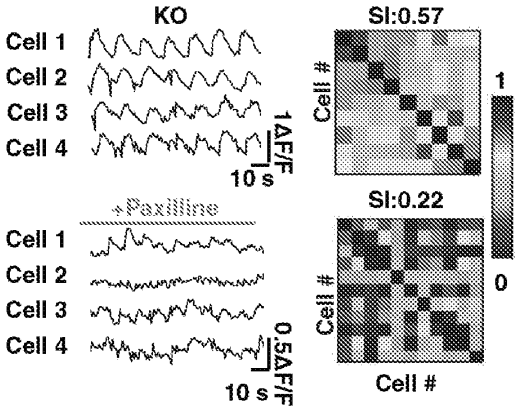


Fig. 3K

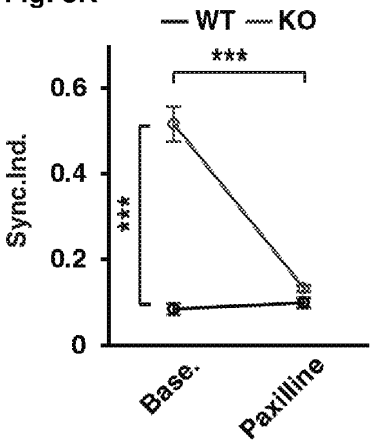


Fig. 4A

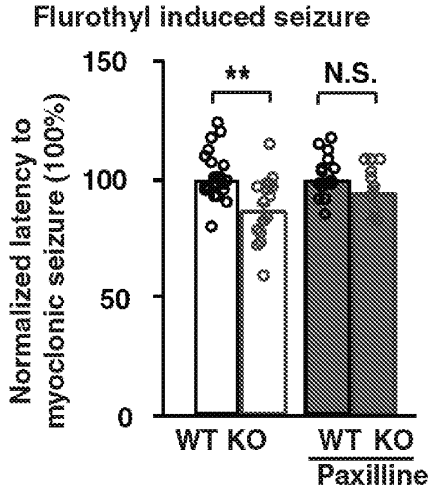


Fig. 4B

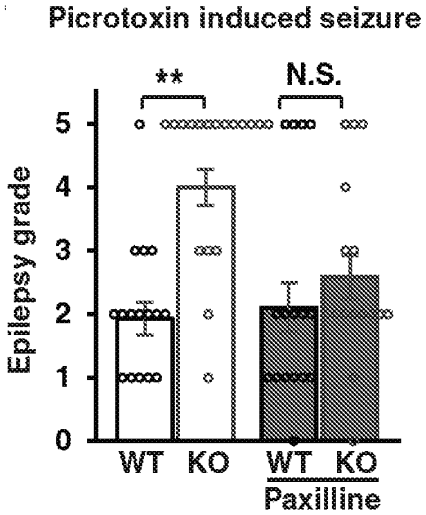


Fig. 4C

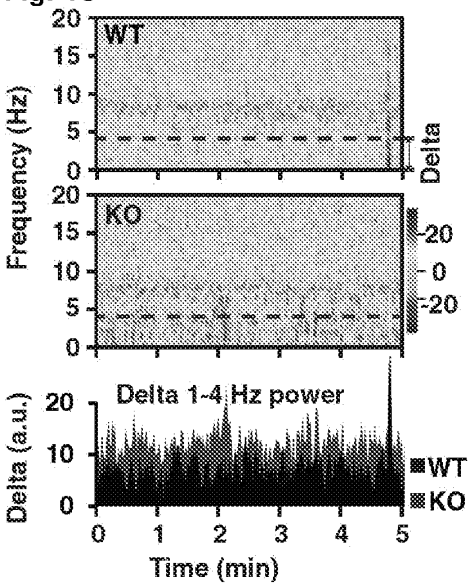


Fig. 4D

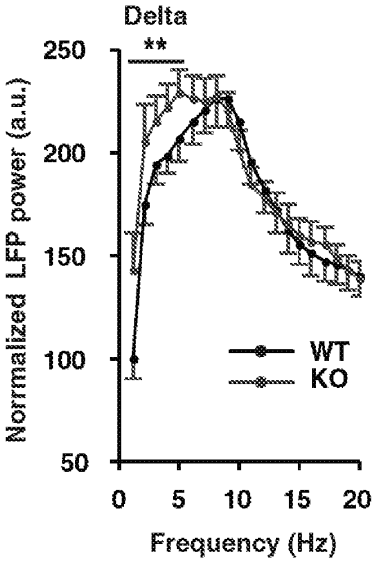


Fig. 4E

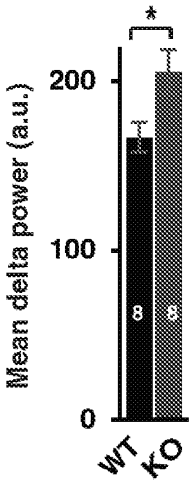


Fig. 4F

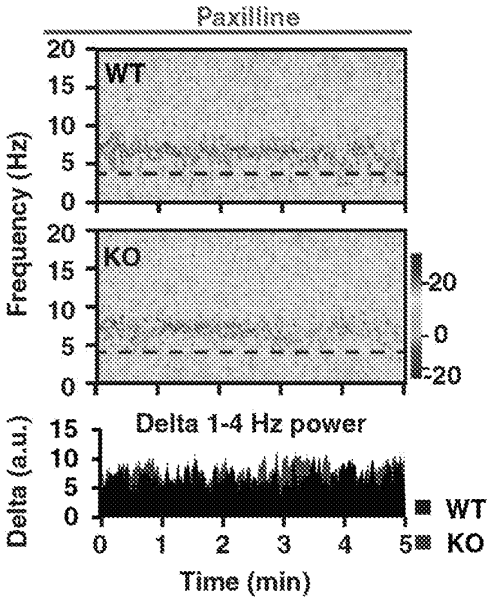


Fig. 4G

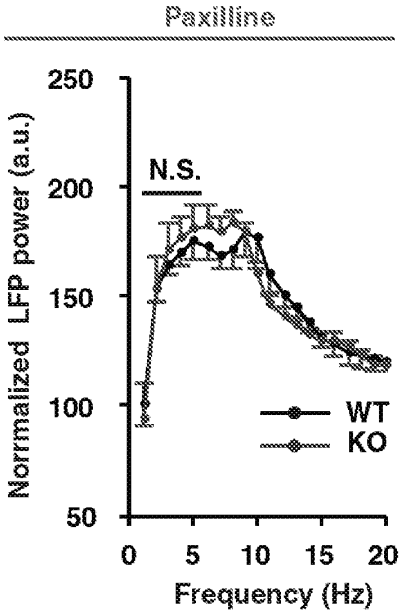


Fig. 4H

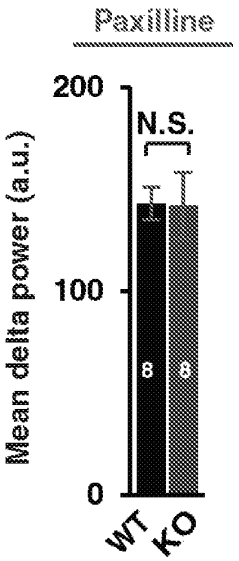


Fig. 4I

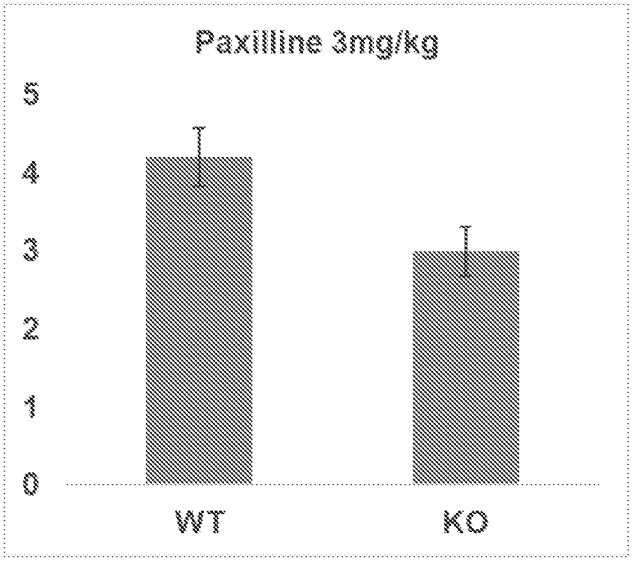


Fig. 5A

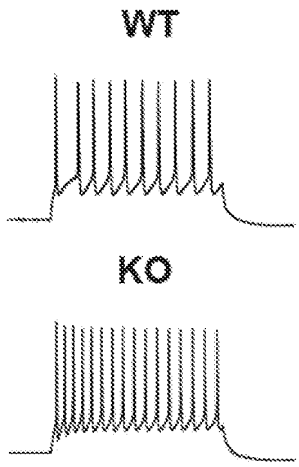


Fig. 5B

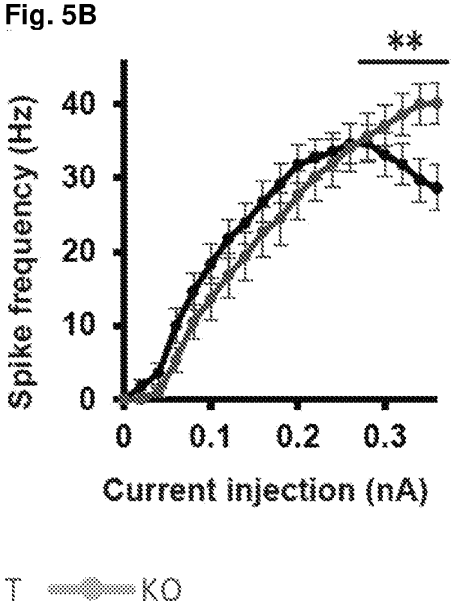


Fig. 5C

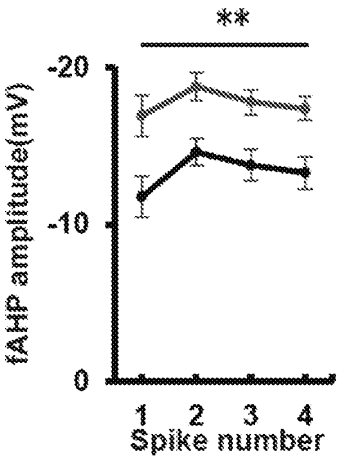


Fig. 5D

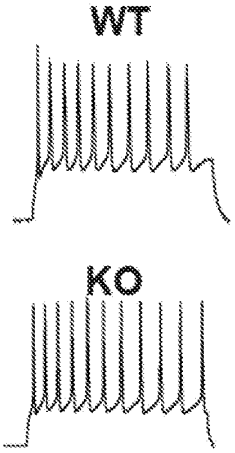


Fig. 5E

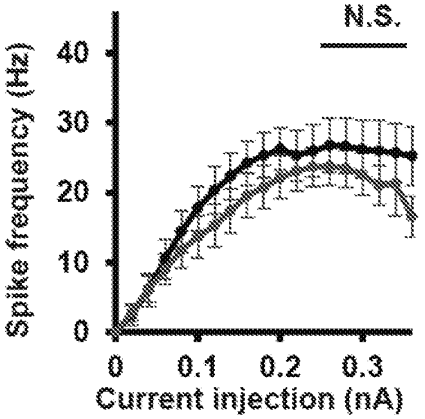


Fig. 5F

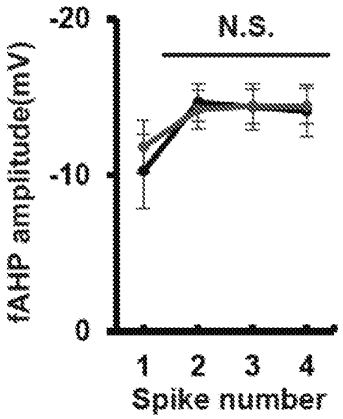


Fig. 5G

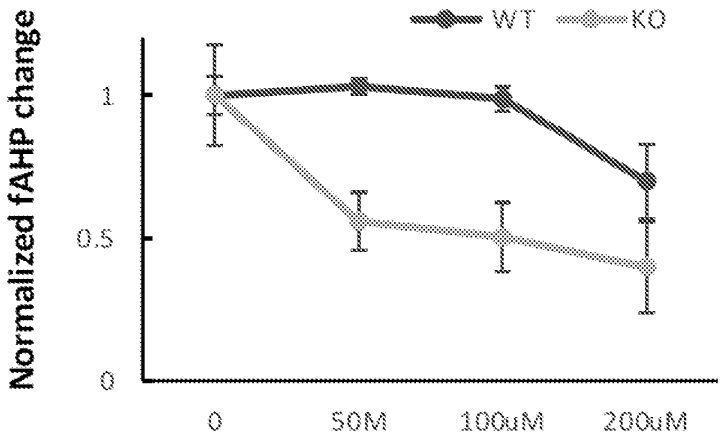


Fig. 6A

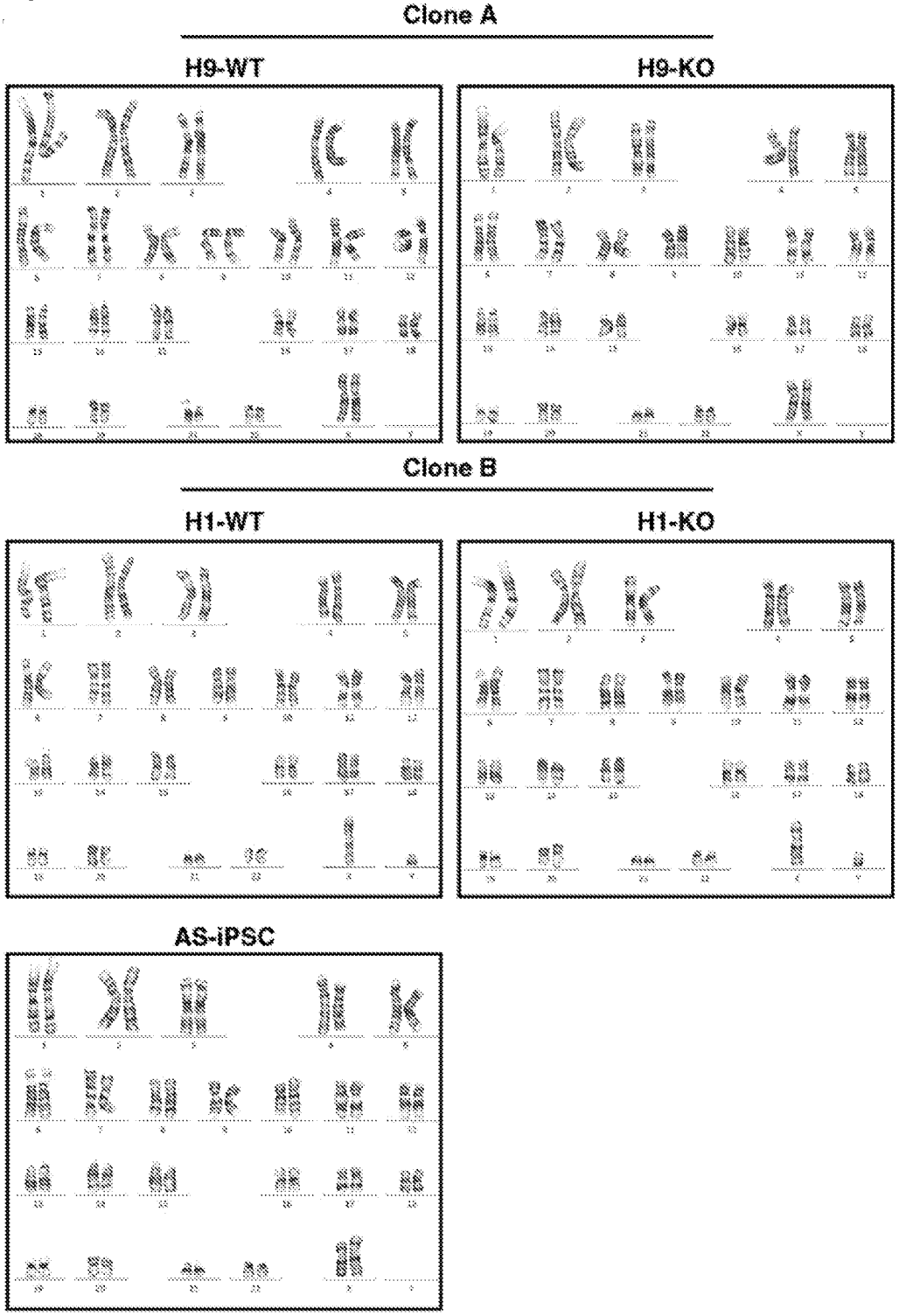


Fig. 6B

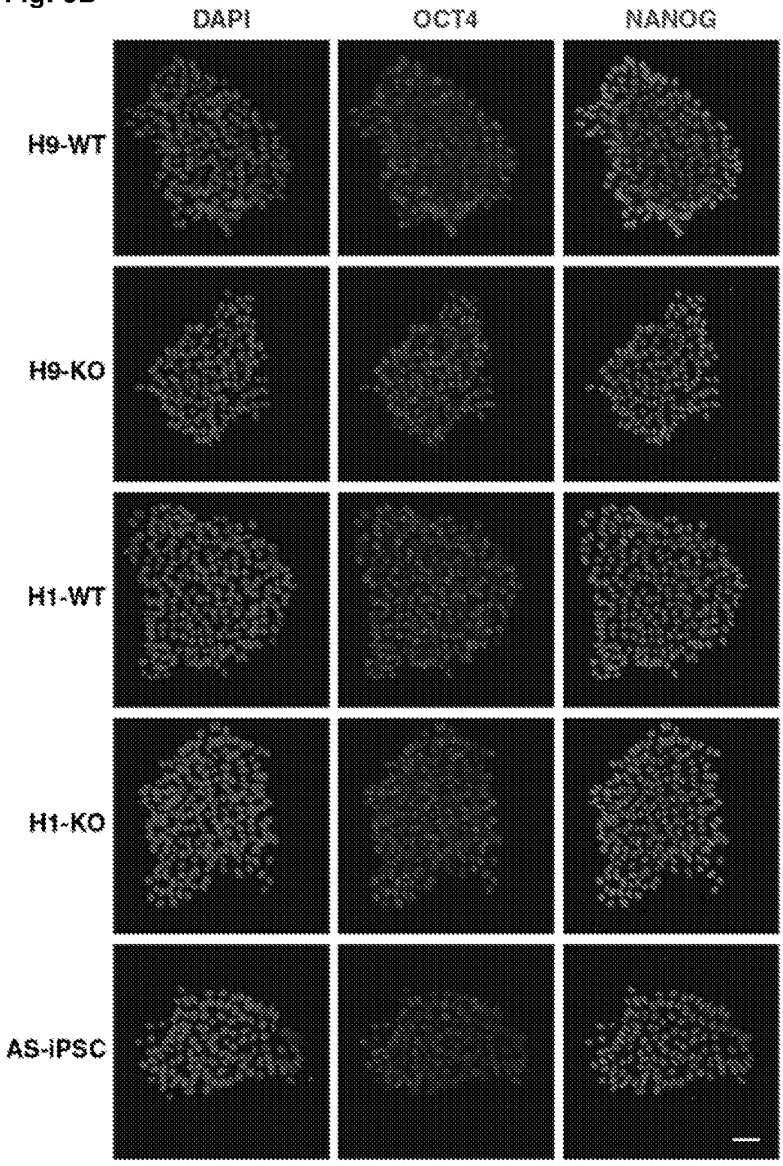

DAPI
OCT4
NANOG
H9-WT
H9-KO
H1-WT
H1-KO
AS-iPSC

Fig. 6C

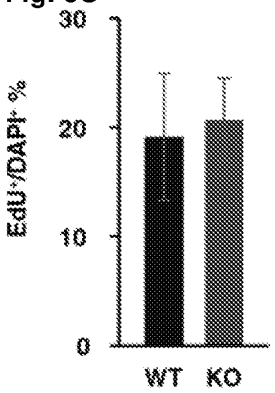

30
20
10
0
EdU+/DAPI+ %
WT
KO

Fig. 7A

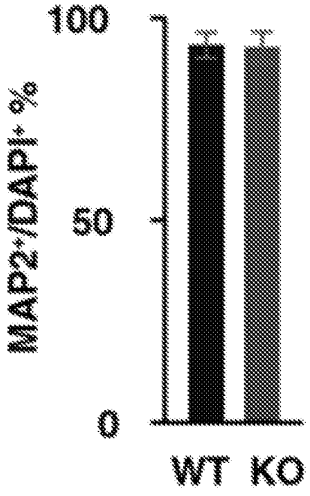


Fig. 7B

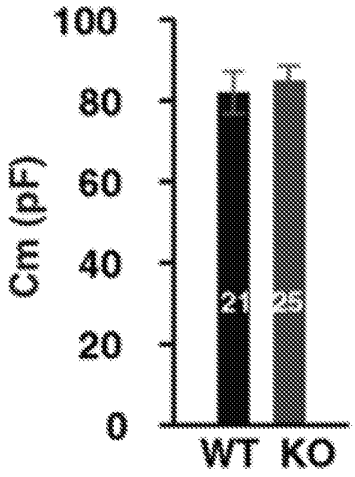


Fig. 7C

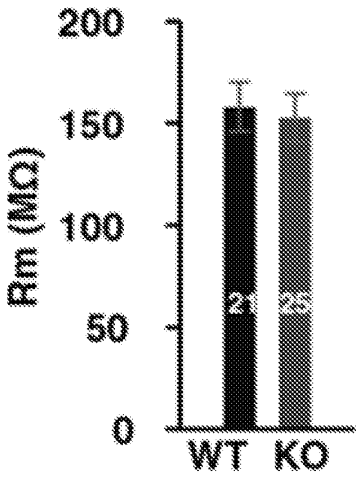


Fig. 7D

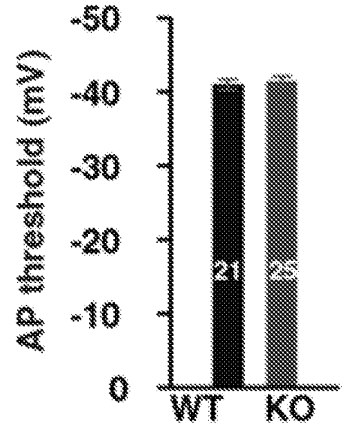


Fig. 7E

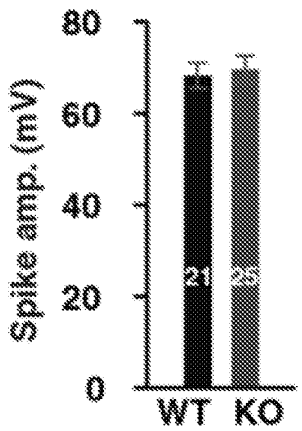


Fig. 7F

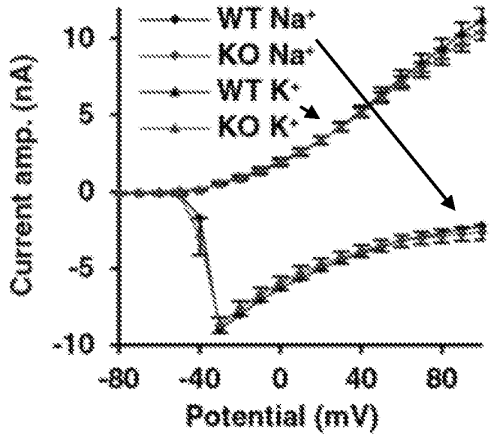


Fig. 7G

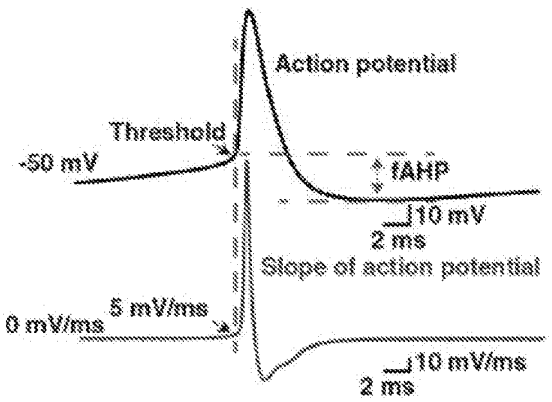


Fig. 7H

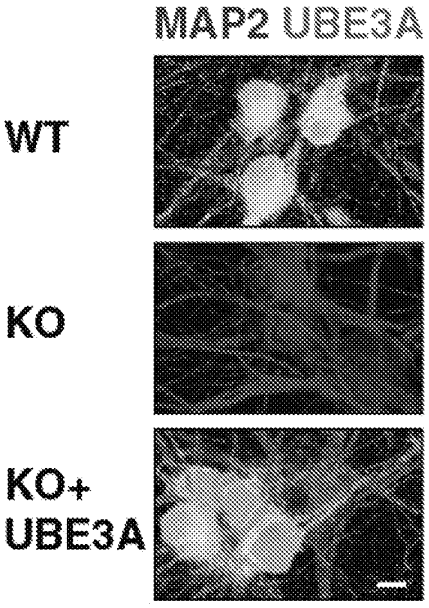


Fig. 7I

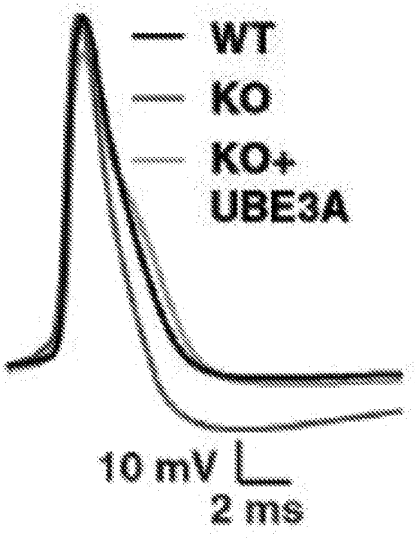


Fig. 7J

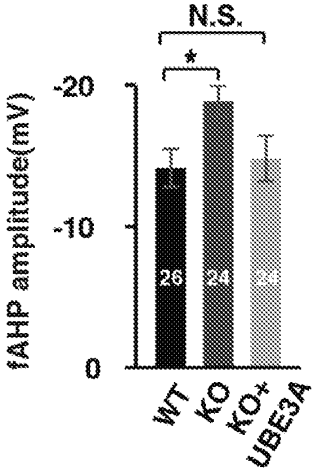


Fig. 7K

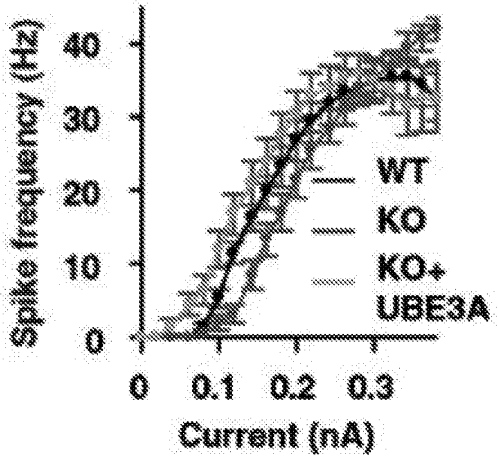


Fig. 7L

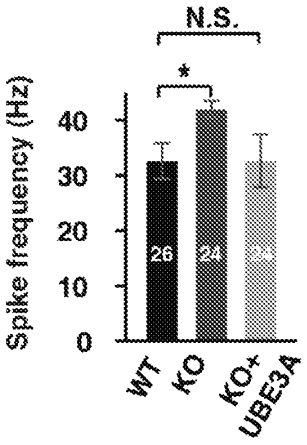


Fig. 7M

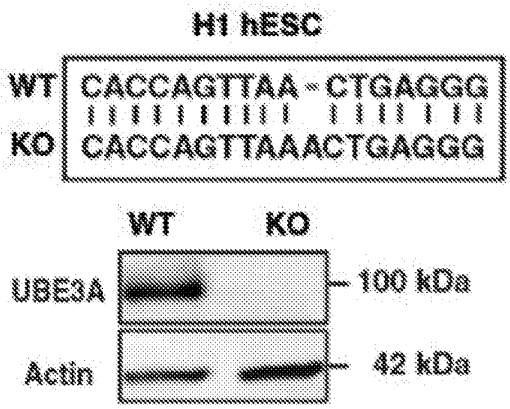


Fig. 7N

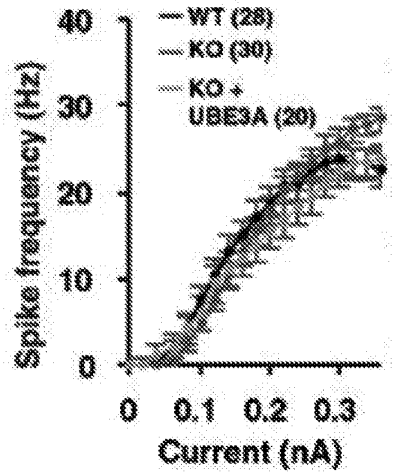


Fig. 7O

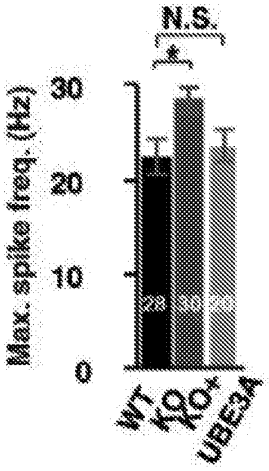


Fig. 7P

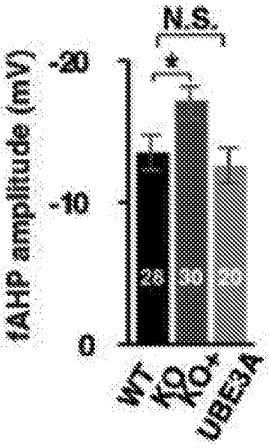


Fig. 7Q

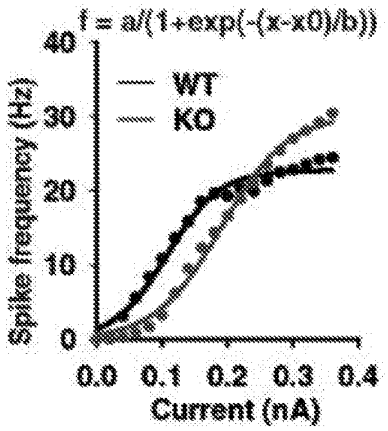


Fig. 7R

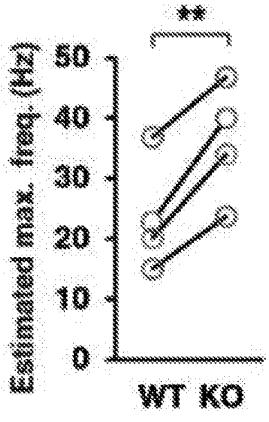


Fig. 7S

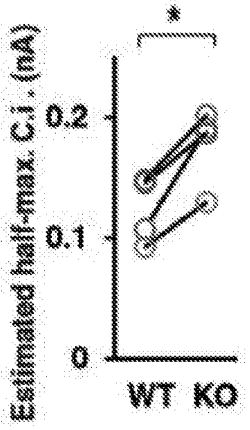


Fig. 8A

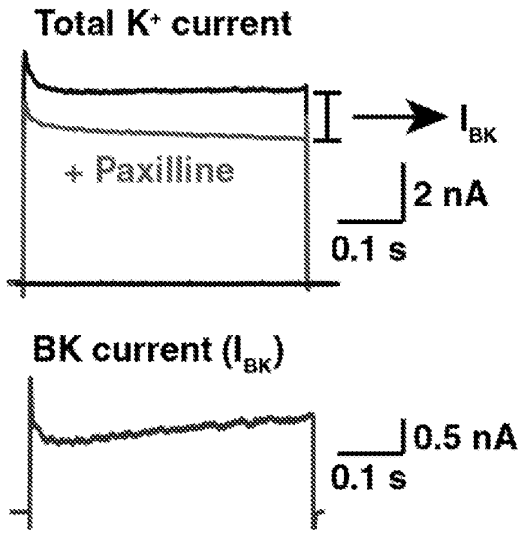


Fig. 8B

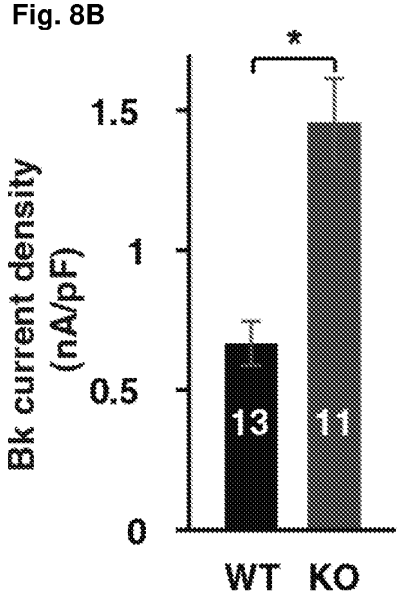


Fig. 8C

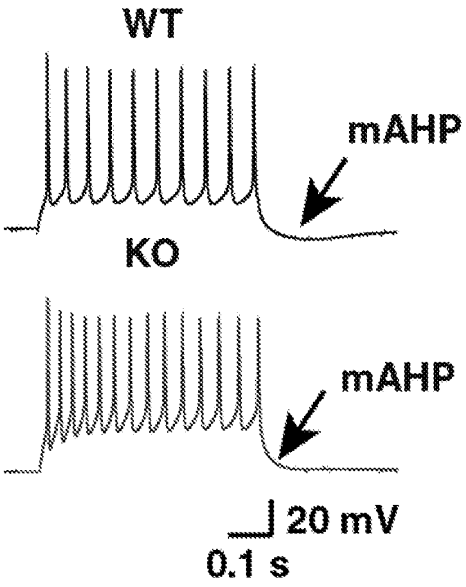


Fig. 8D

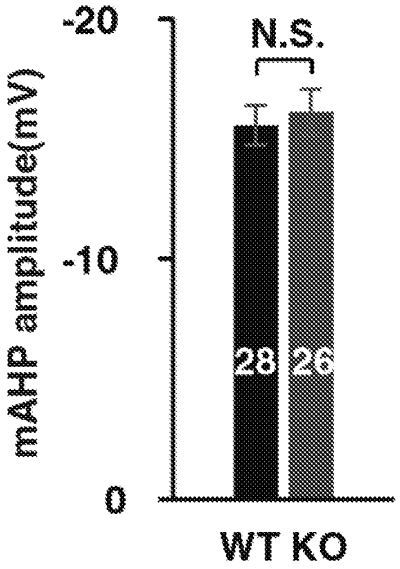


Fig. 8E

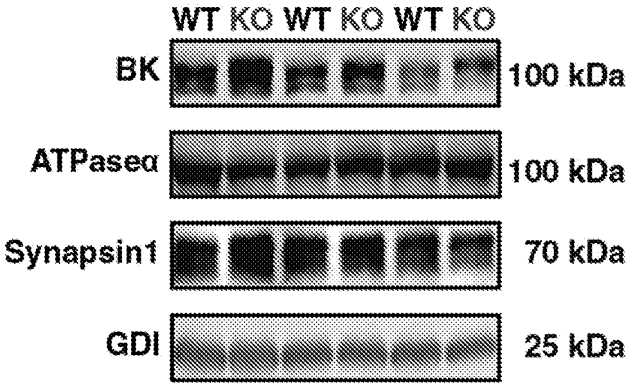


Fig. 8F

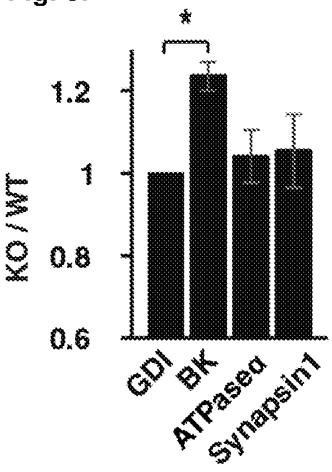


Fig. 9A

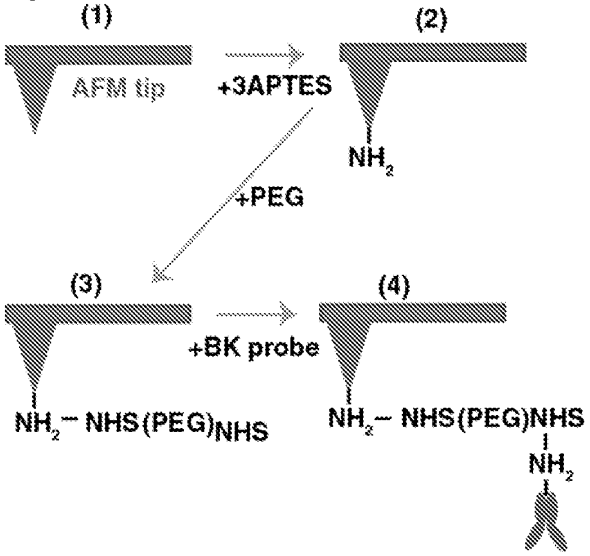


Fig. 9B

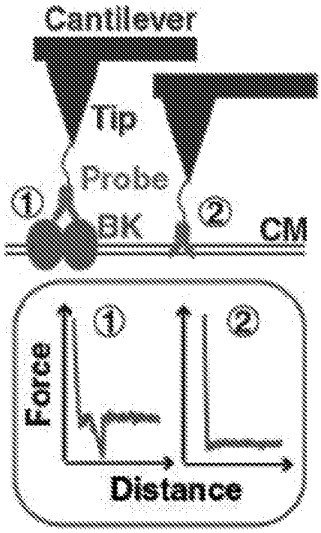


Fig. 9C

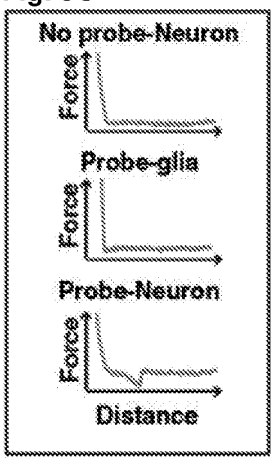


Fig. 10A

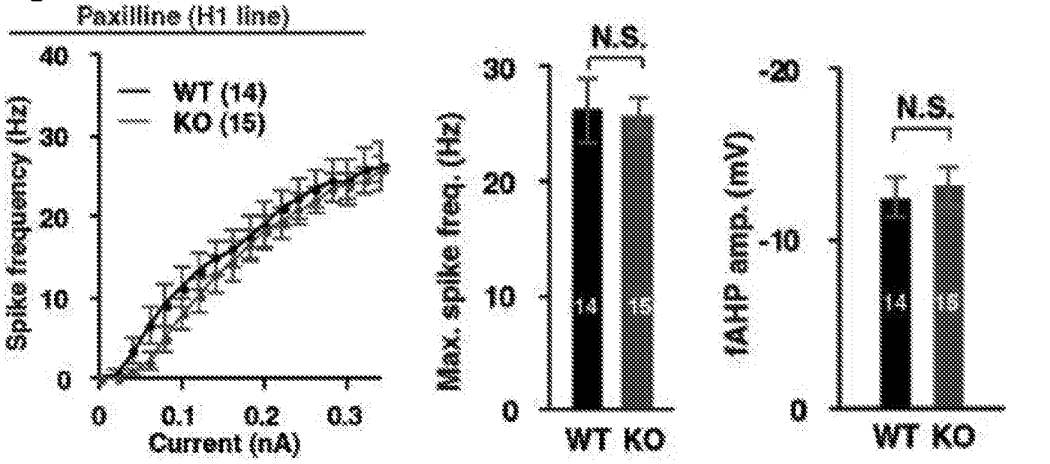


Fig. 10B

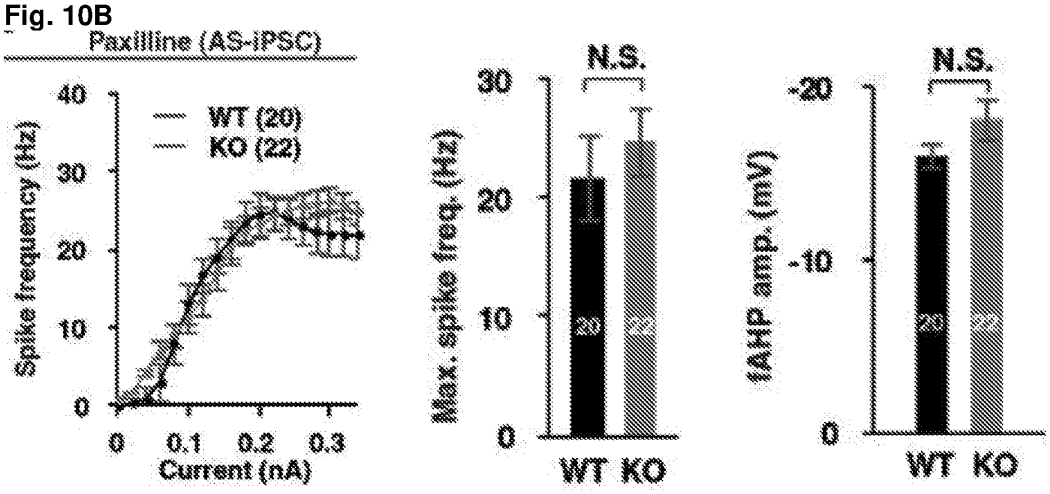


Fig. 10C

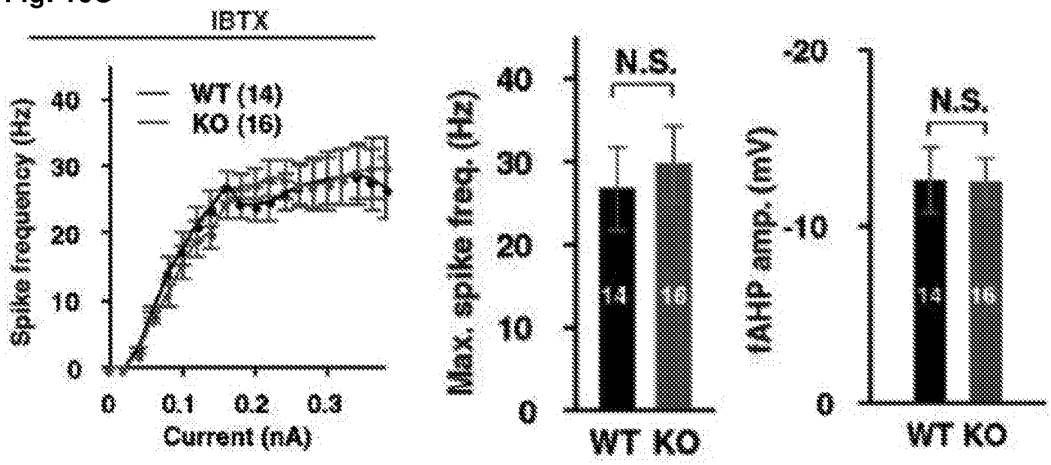


Fig. 10D

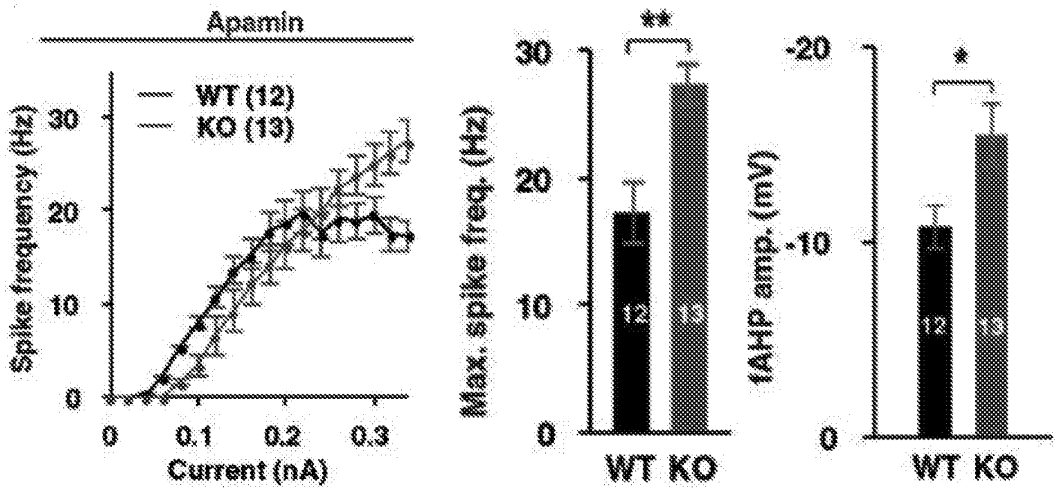


Fig. 11A

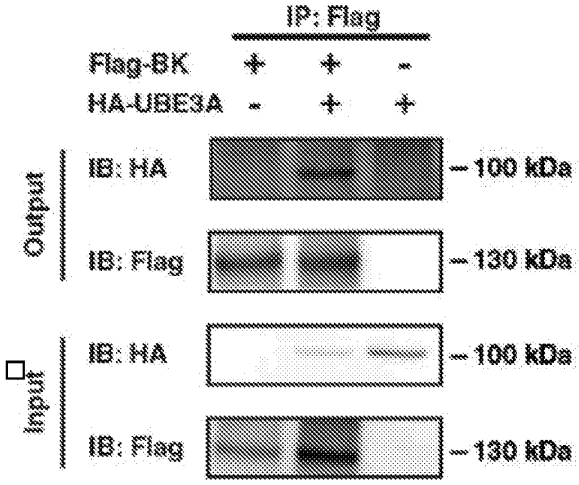


Fig. 11B

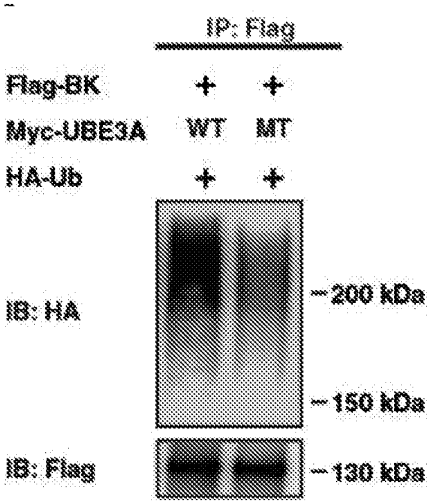


Fig. 11C

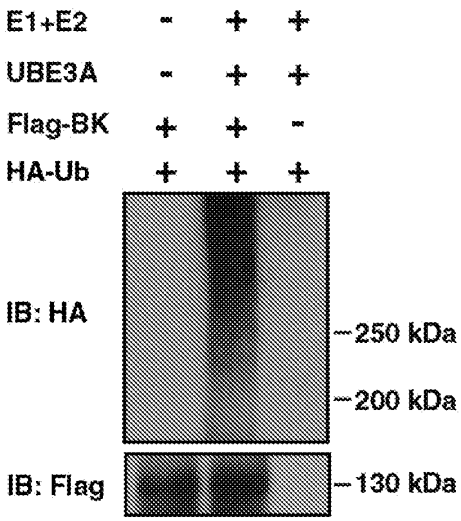


Fig. 11D

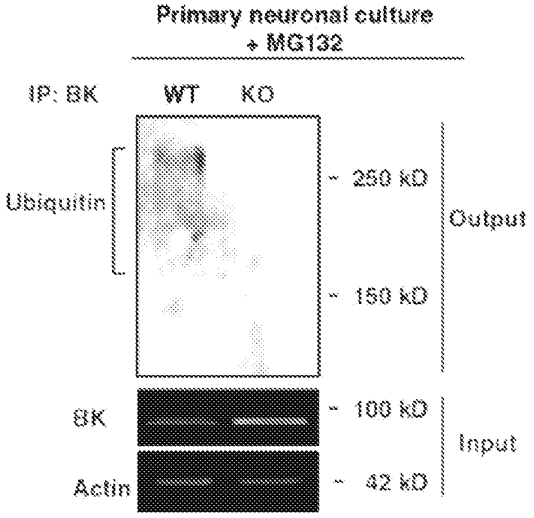


Fig. 11E

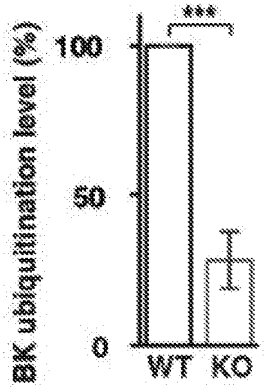


Fig. 11F

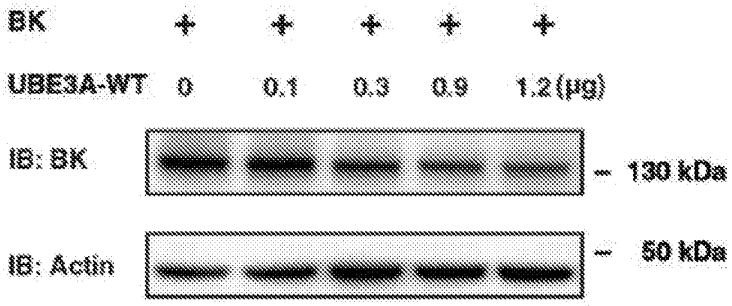


Fig. 11G

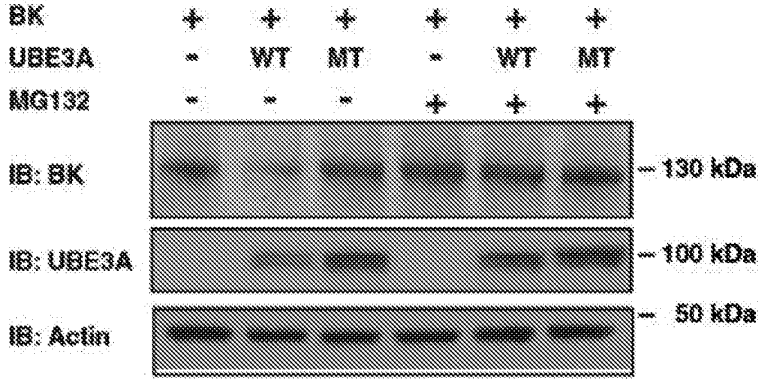


Fig. 11H

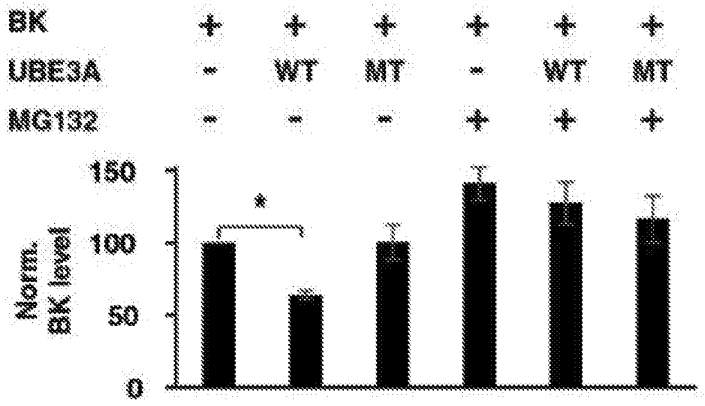


Fig. 11I

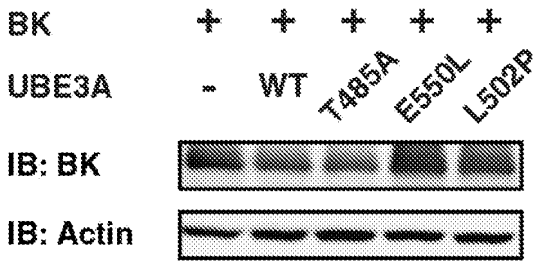


Fig. 12A

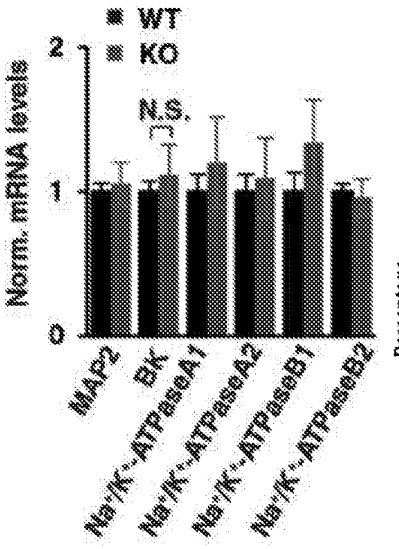


Fig. 12B

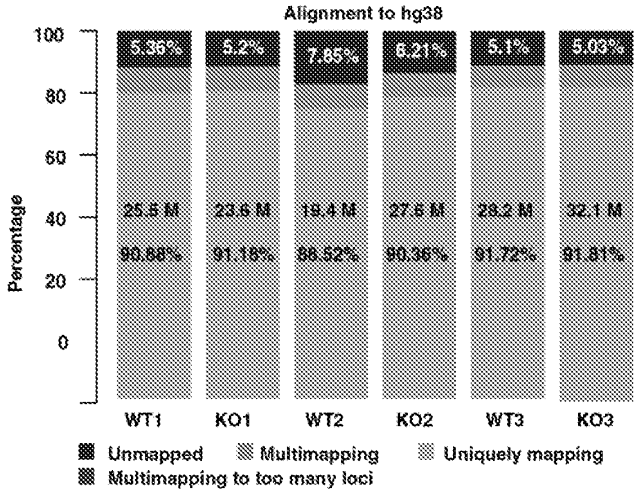


Fig. 12C

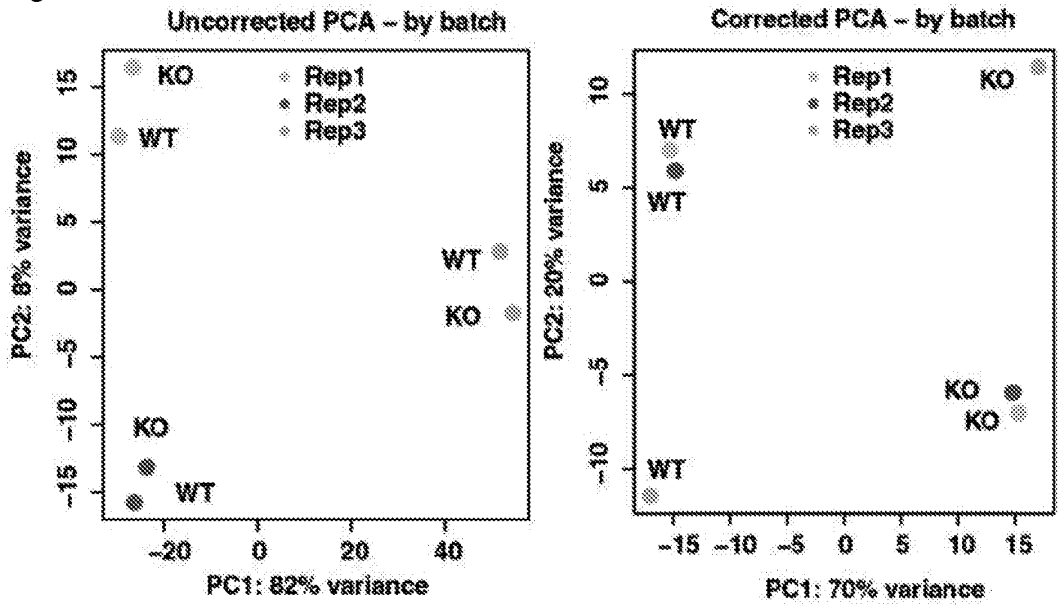


Fig. 12D

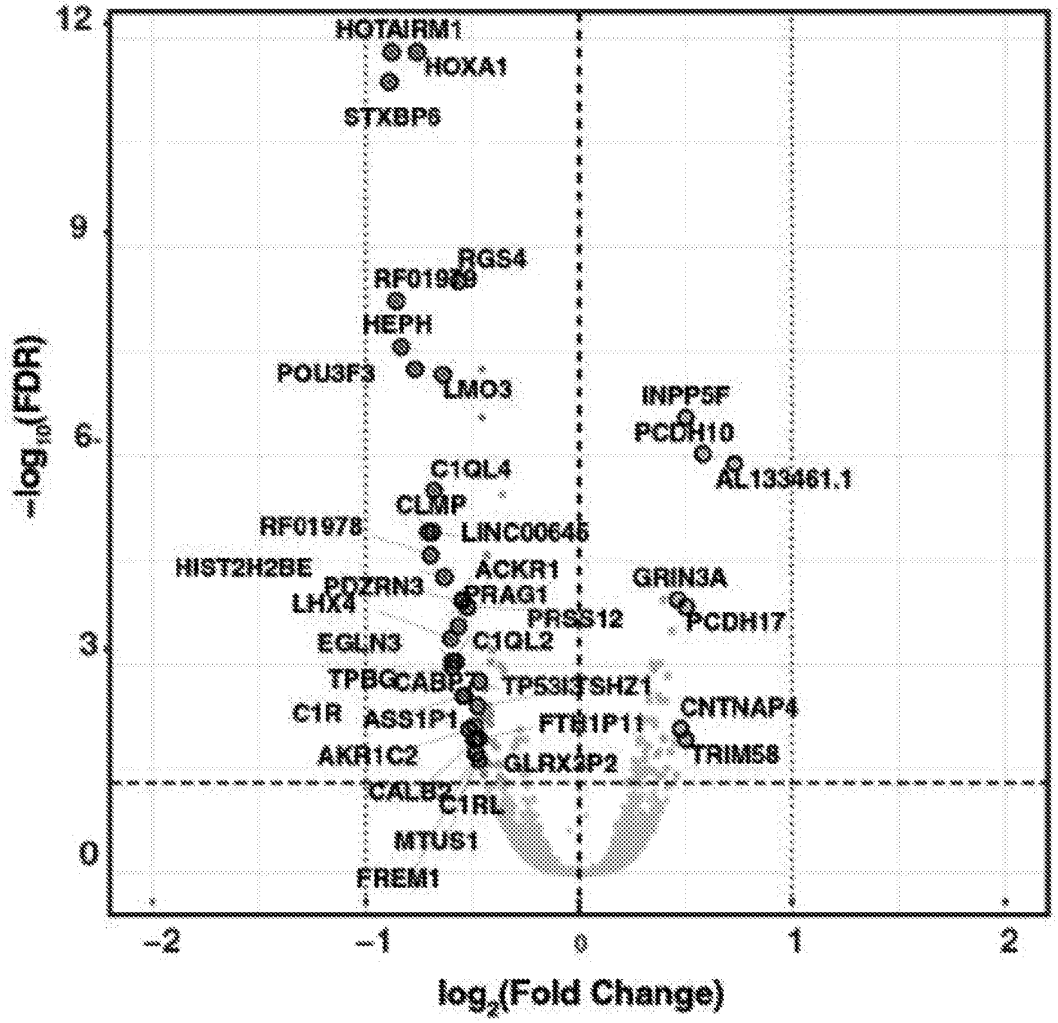

HOTAIRM1
HOXA1
STXBP6
RGS4
RF01960
HEPH
POU3F3
LMO3
INPP5F
PCDH10
AL133461.1
C1QL4
CLMP
RF01978
LINC00645
HIST2H2BE
ACKR1
PDZRN3
GRIN3A
LHX4
RAG1
PRSS12
PCDH17
EGLN3
C1QL2
TPBG
CABP7
TPSB2
SHZ1
C1R
ASS1P1
FTH1P11
CNTNAP4
AKR1C2
GLRX2P2
TRIM58
CALB2
C1RL
MTUS1
FREM1
12
9
6
3
0
−2
−1
0
1
2
−log10(FDR)
log2(Fold Change)

Fig. 13A

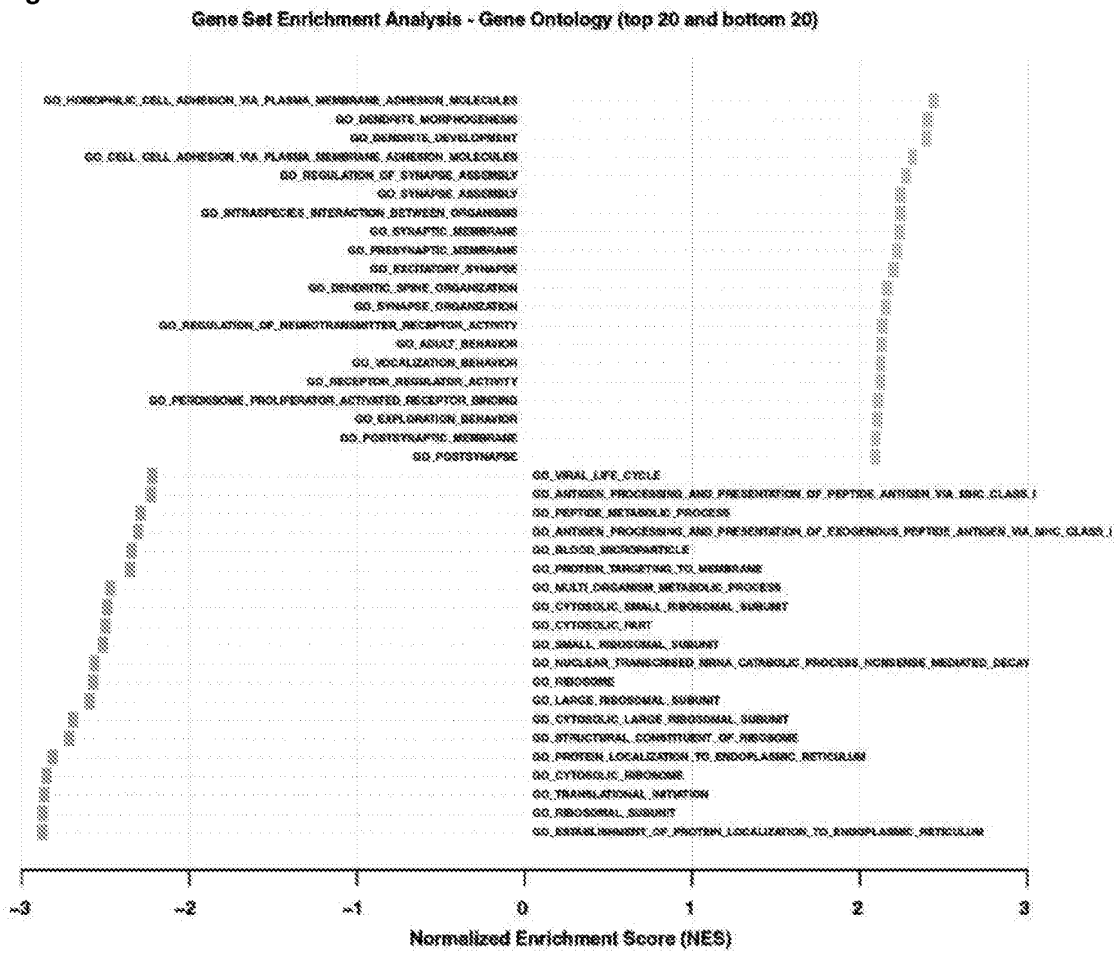

Gene Set Enrichment Analysis - Gene Ontology (top 20 and bottom 20)
GO_HOMOPHILIC_CELL_ADHESION_VIA_PLASMA_MEMBRANE_ADHESION_MOLECULES
GO_DENDRITE_MORPHOGENESIS
GO_DENDRITE_DEVELOPMENT
GO_CELL_CELL_ADHESION_VIA_PLASMA_MEMBRANE_ADHESION_MOLECULES
GO_REGULATION_OF_SYNAPSE_ASSEMBLY
GO_SYNAPSE_ASSEMBLY
GO_INTRASPECIES_INTERACTION_BETWEEN_ORGANISMS
GO_SYNAPTIC_MEMBRANE
GO_PRESYNAPTIC_MEMBRANE
GO_EXCITATORY_SYNAPSE
GO_DENDRITIC_SPINE_ORGANIZATION
GO_SYNAPSE_ORGANIZATION
GO_REGULATION_OF_NEUROTRANSMITTER_RECEPTOR_ACTIVITY
GO_ADULT_BEHAVIOR
GO_VOCALIZATION_BEHAVIOR
GO_RECEPTOR_REGULATOR_ACTIVITY
GO_PEROXISOME_PROLIFERATOR_ACTIVATED_RECEPTOR_SIGNALING
GO_EXPLORATION_BEHAVIOR
GO_POSTSYNAPTIC_MEMBRANE
GO_POSTSYNAPSE
GO_VIRAL_LIFE_CYCLE
GO_ANTIGEN_PROCESSING_AND_PRESENTATION_OF_PEPTIDE_ANTIGEN_VIA_MHC_CLASS_I
GO_PEPTIDE_METABOLIC_PROCESS
GO_ANTIGEN_PROCESSING_AND_PRESENTATION_OF_EXOGENOUS_PEPTIDE_ANTIGEN_VIA_MHC_CLASS_I
GO_BLOOD_MICROPARTICLE
GO_PROTEIN_TARGETING_TO_MEMBRANE
GO_MULTI_ORGANISM_METABOLIC_PROCESS
GO_CYTOSOLIC_SMALL_RIBOSOMAL_SUBUNIT
GO_CYTOSOLIC_PART
GO_SMALL_RIBOSOMAL_SUBUNIT
GO_NUCLEAR_TRANSCRIBED_MRNA_CATABOLIC_PROCESS_NONSENSE_MEDIATED_DECAY
GO_RIBOSOME
GO_LARGE_RIBOSOMAL_SUBUNIT
GO_CYTOSOLIC_LARGE_RIBOSOMAL_SUBUNIT
GO_STRUCTURAL_CONSTITUENT_OF_RIBOSOME
GO_PROTEIN_LOCALIZATION_TO_ENDOPLASMIC_RETICULUM
GO_CYTOSOLIC_RIBOSOME
GO_TRANSLATIONAL_INITIATION
GO_RIBOSOMAL_SUBUNIT
GO_ESTABLISHMENT_OF_PROTEIN_LOCALIZATION_TO_ENDOPLASMIC_RETICULUM
-3
-2
-1
0
1
2
3
Normalized Enrichment Score (NES)

Fig. 13B

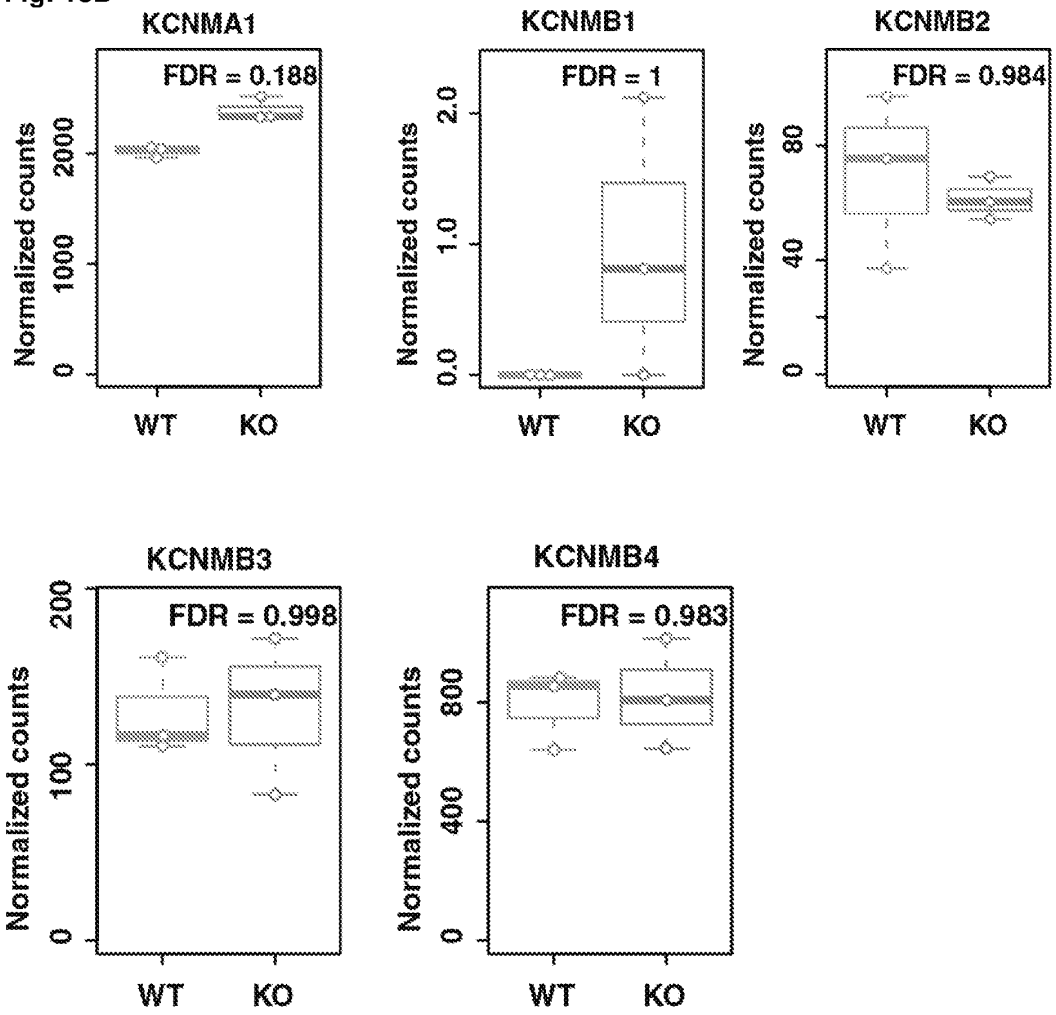

KCNMA1
FDR = 0.188
Normalized counts
0
1000
2000
WT
KO
KCNMB1
FDR = 1
Normalized counts
0.0
1.0
2.0
WT
KO
KCNMB2
FDR = 0.984
Normalized counts
0
40
80
WT
KO
KCNMB3
FDR = 0.998
Normalized counts
0
100
200
WT
KO
KCNMB4
FDR = 0.983
Normalized counts
0
400
800
WT
KO

Fig. 14A

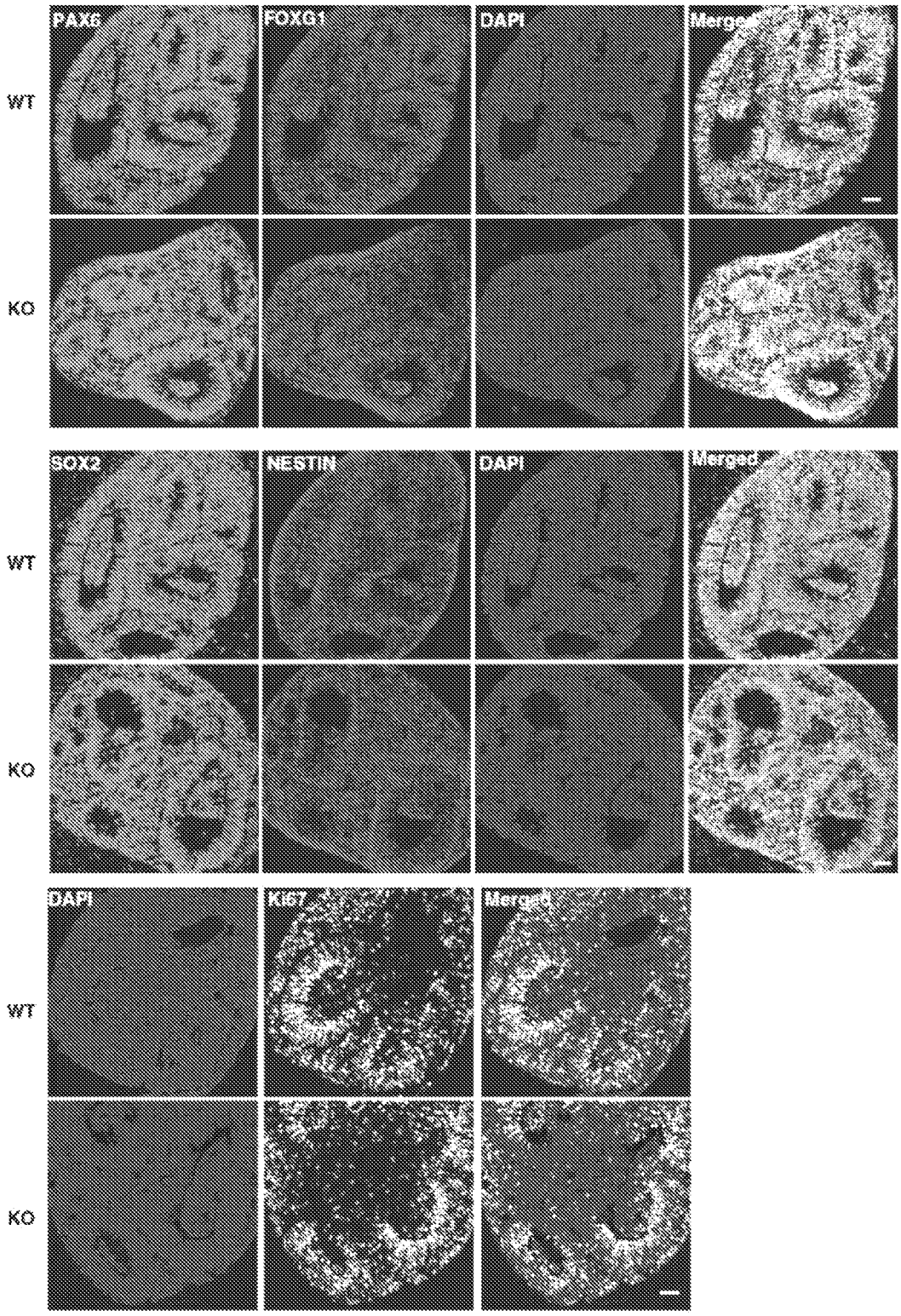

PAX6
FOXG1
DAPI
Merge
WT
KO
SOX2
NESTIN
DAPI
Merge
WT
KO
DAPI
KI67
Merge
WT
KO

Fig. 14B

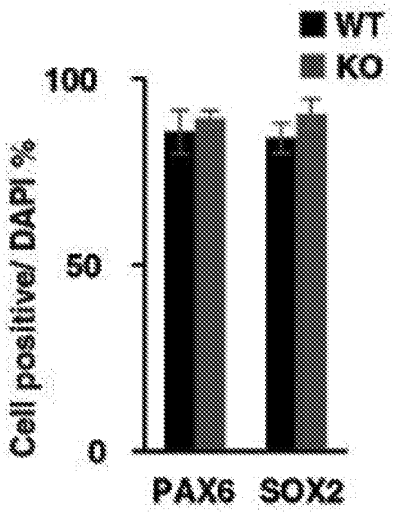


Fig. 14C

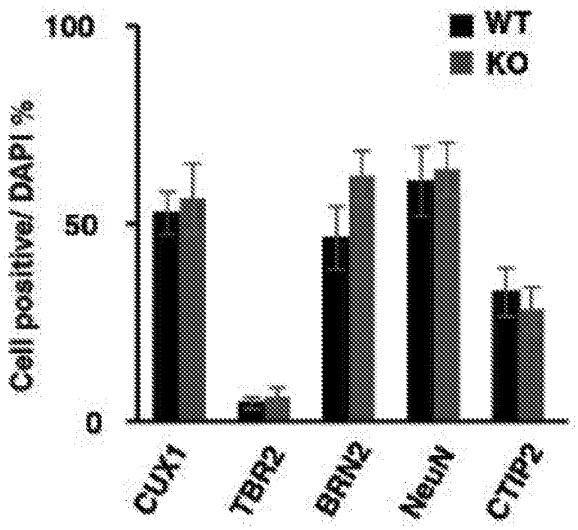


Fig. 14D

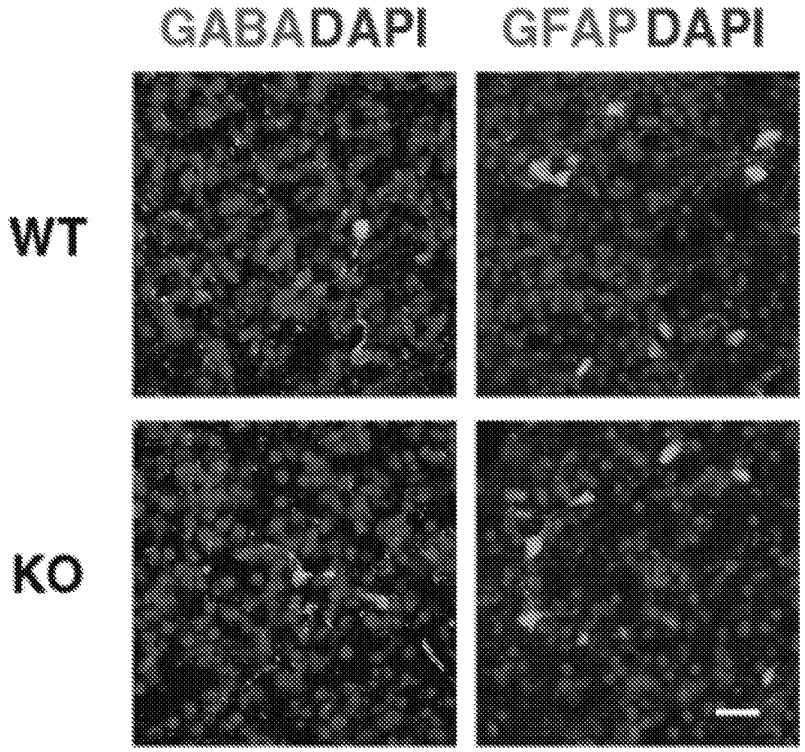


Fig. 15A

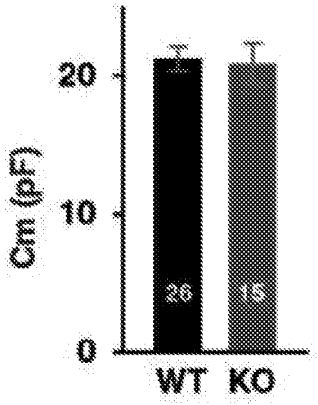


Fig. 15B

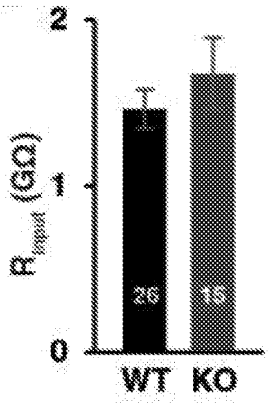


Fig. 15C

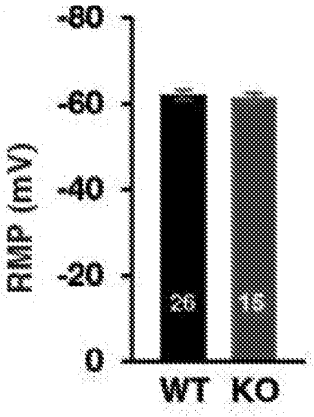


Fig. 15D

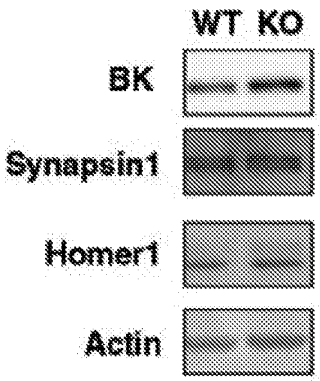


Fig. 15E

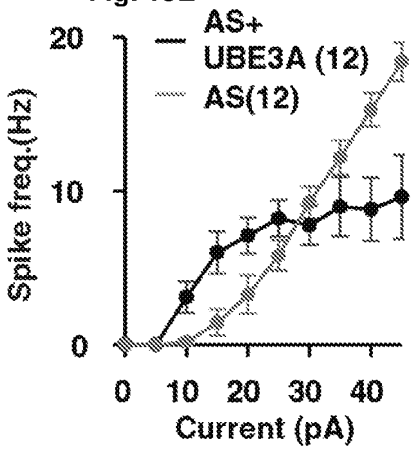


Fig. 15F

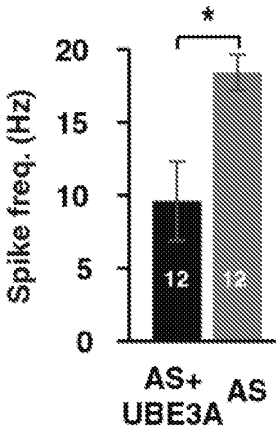


Fig. 15G

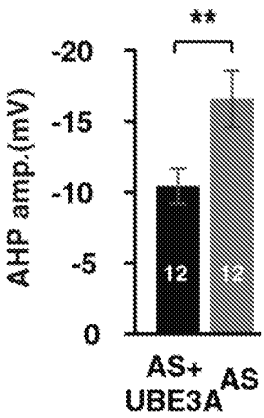


Fig. 15H

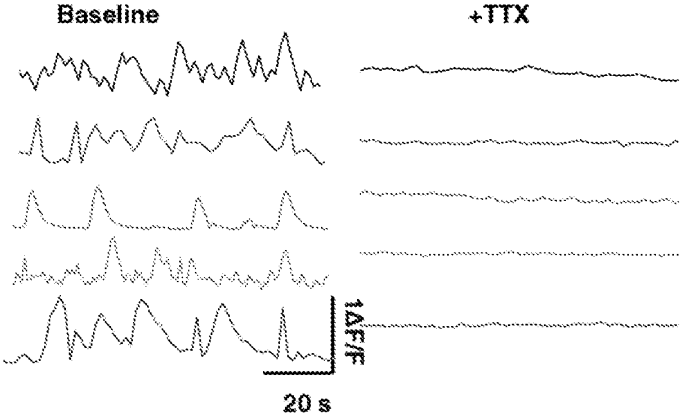


Fig. 15I

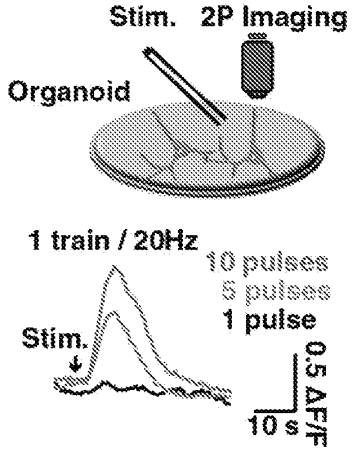


Fig. 15J

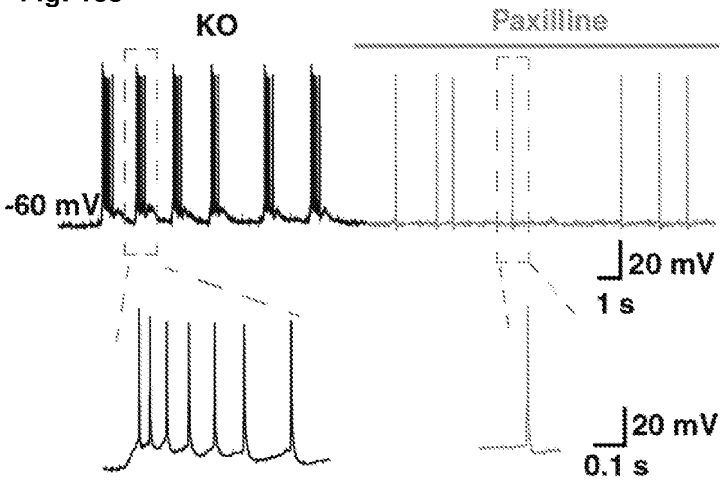


Fig. 15K

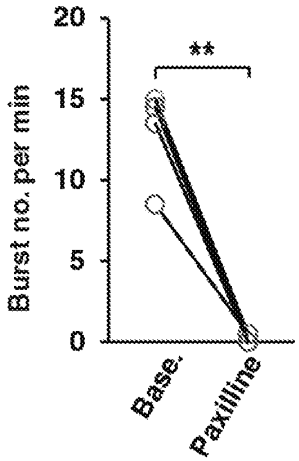


Fig. 16A

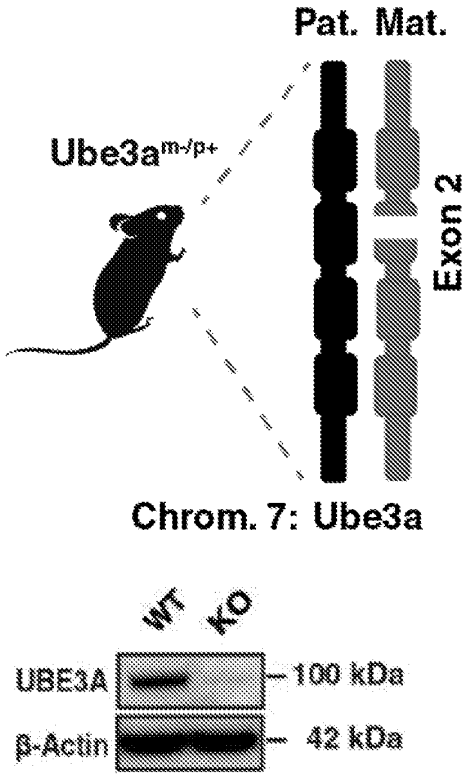


Fig. 16B

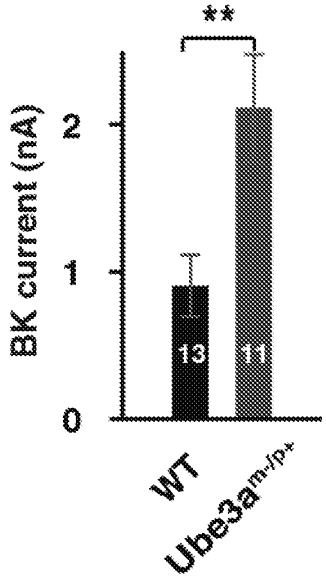


Fig. 16C

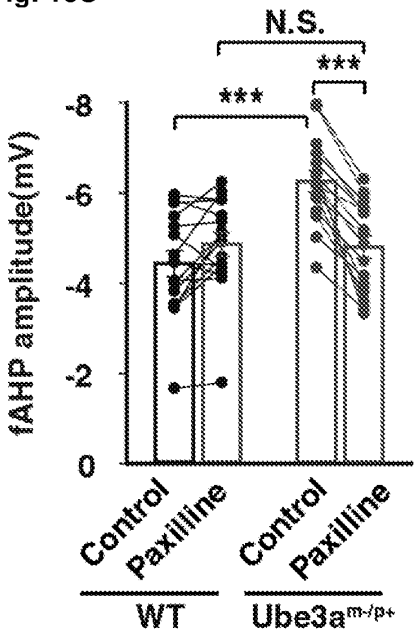


Fig.16D

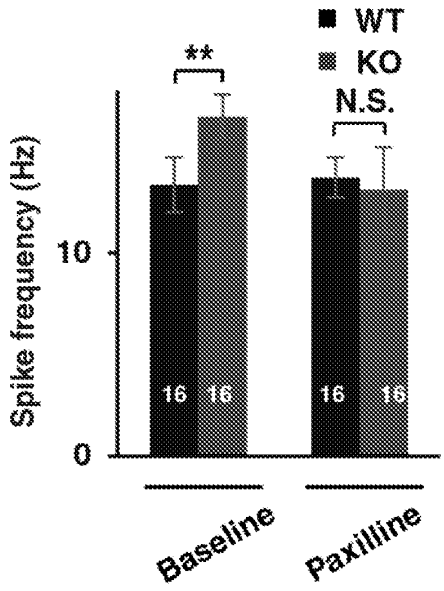


Fig. 17A

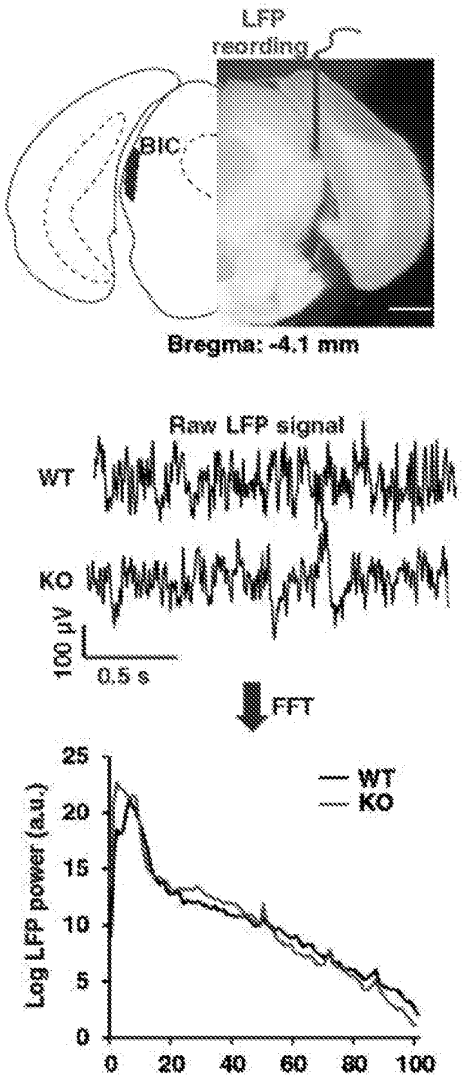


Fig. 17B

