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Supplementary information

A NPAS4–NuA4 complex couples synaptic activity to DNA repair

In the format provided by the authors and unedited

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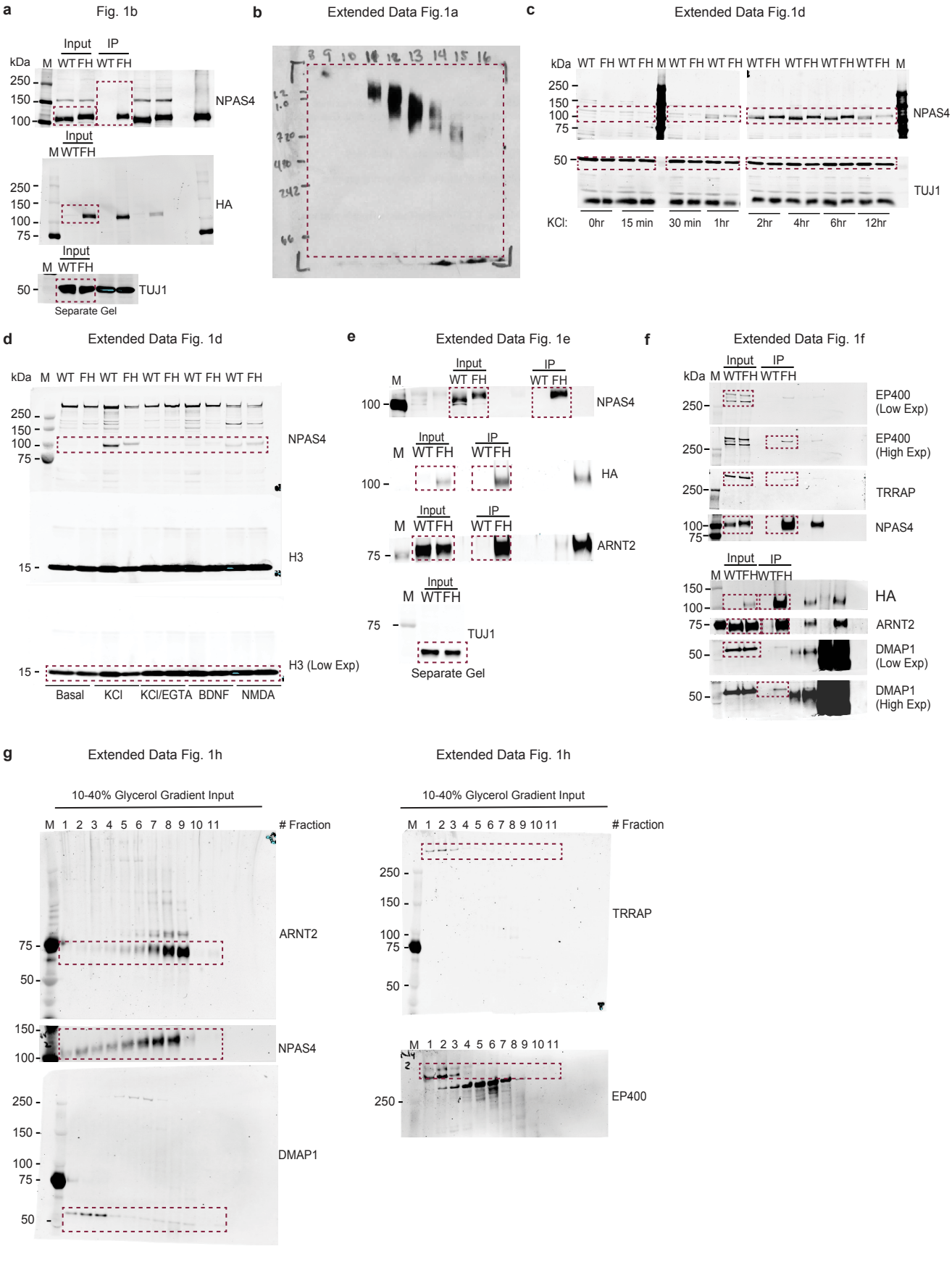
Supplementary Figure 1



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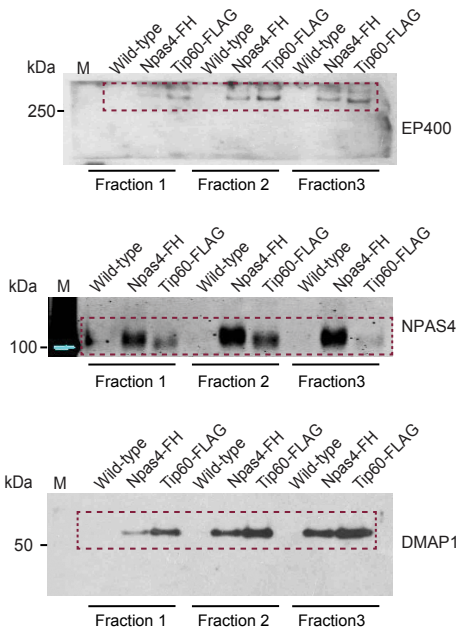
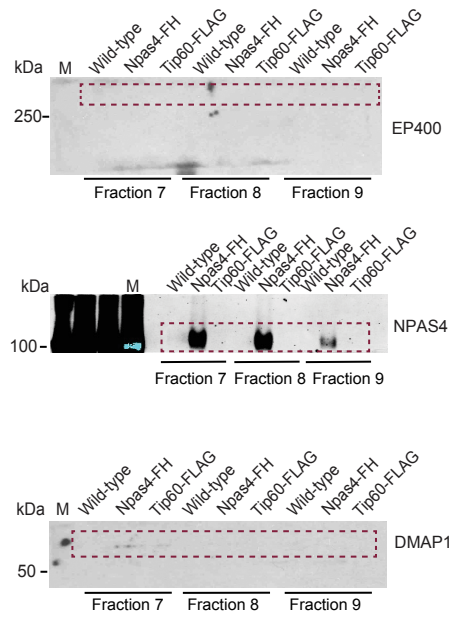
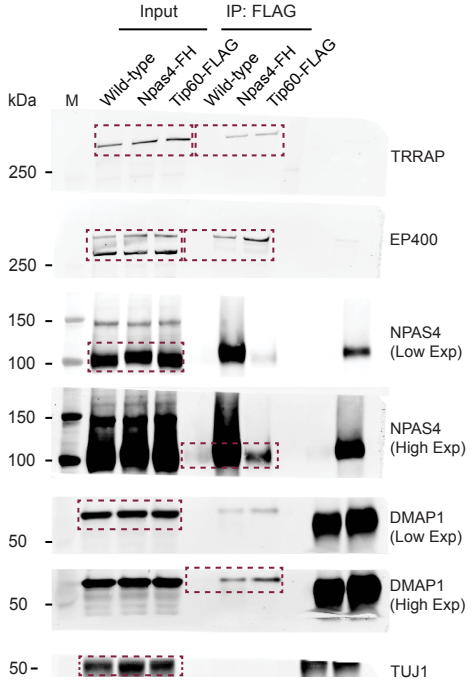

Extended Data Fig. 1i
kDa
M
Wild-type
Npas4-FH
Tip60-FLAG
250
EP400
Fraction 1
Fraction 2
Fraction3
100
NPAS4
50
DMAP1

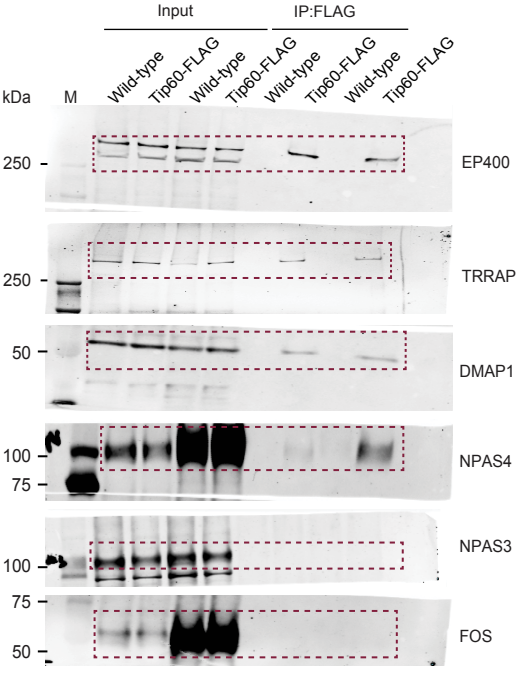
i


Extended Data Fig. 1j
kDa
M
Wild-type
Npas4-FH
Tip60-FLAG
250
EP400
Fraction 7
Fraction 8
Fraction 9
100
NPAS4
50
DMAP1

j


Extended Data Fig. 2a
Input
IP: FLAG
kDa
M
Wild-type
Npas4-FH
Tip60-FLAG
250
TRRAP
EP400
150
100
NPAS4
(Low Exp)
NPAS4
(High Exp)
50
DMAP1
(Low Exp)
DMAP1
(High Exp)
TUJ1

k


Extended Data Fig. 2b
Input
IP:FLAG
kDa
M
Wild-type
Tip60-FLAG
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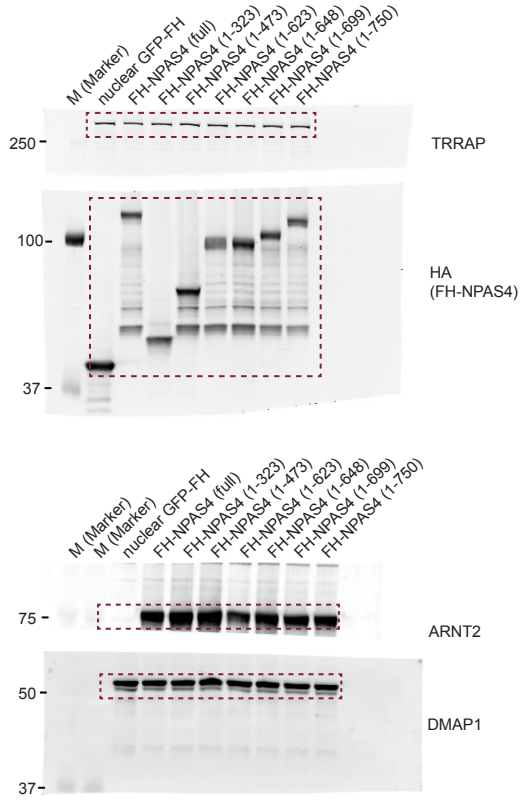
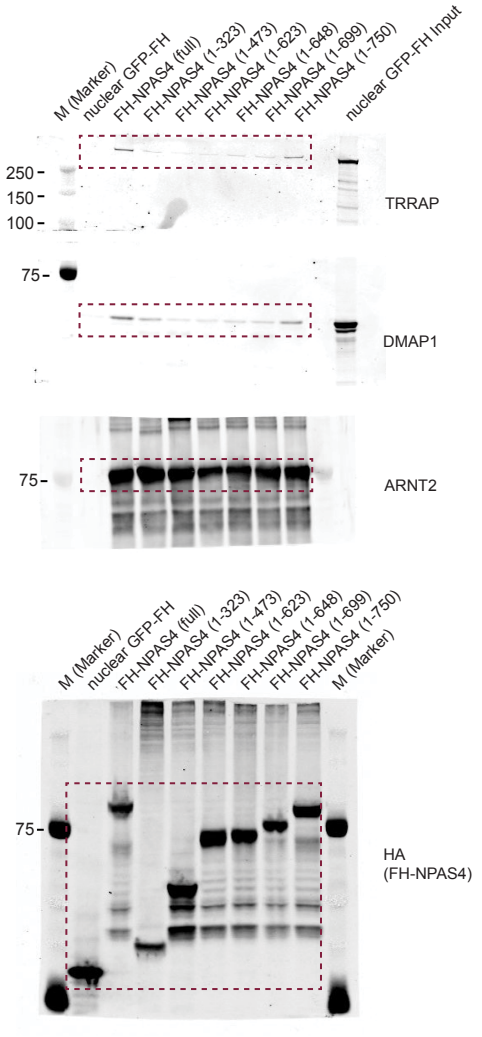
EP400
TRRAP
50
DMAP1
100
75
NPAS4
NPAS3
FOS

l

Extended Data Fig. 2d Input

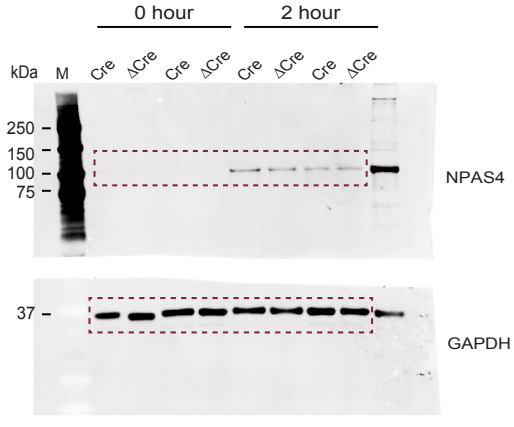


Extended Fig. 2d IP



m

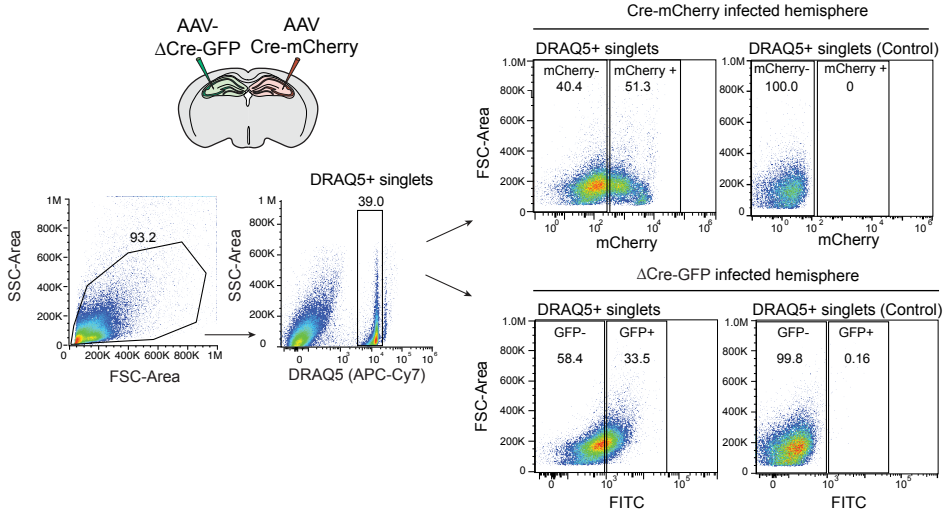
Extended Data Fig. 4d



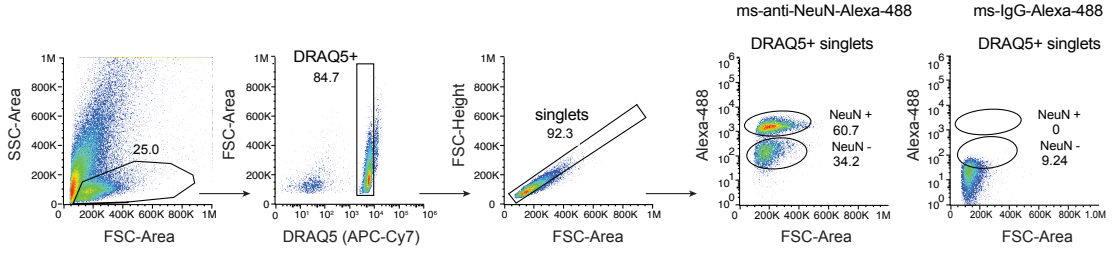
a-m) Uncropped western blots shown throughout manuscript. M=marker; red box indicates area cropped for the Figure. Separate gel indicates samples for which the processing control was run on a separate gel.

Supplementary Figure 2

a FACS gating strategy for sorting of Cre-mCherry- and ΔCre-GFP- infected hippocampal tissue



b FACS gating strategy for sorting NeuN+ nuclei from wild-type mice



a) FACS gating of Cre-mCherry- and ΔCre-GFP-infected nuclei from hippocampal tissue. Unstained sample without DRAQ5 nuclear dye was used to establish the APC-Cy7-positive gate for DRAQ5-positive nuclei. Nuclei stained with DRAQ5 were initially selected based on APC-Cy7 signal, followed by selection of nuclei with proportional APC-Cy7 area and SSC signal to isolate singlet nuclei. mCherry-positive and GFP-positive gates were determined using a DRAQ5-positive sample from an uninfected mouse. **b)** FACS Gating of NeuN-positive neuronal nuclei from wild-type mice. Unstained sample without DRAQ5 nuclear dye was used to establish the APC-Cy7-positive gate for DRAQ5-positive nuclei. Nuclei stained with DRAQ5 were initially selected based on APC-Cy7 signal, followed by selection of nuclei with linearly proportional FSC area and height signal to isolate singlet nuclei. NeuN-positive gate was determined using both a DRAQ5-stained sample that was not stained with mouse anti-NeuN-Alexa488 (no primary control) and a DRAQ5-stained sample that was stained with mouse IgG-Alexa488 (isotype control).