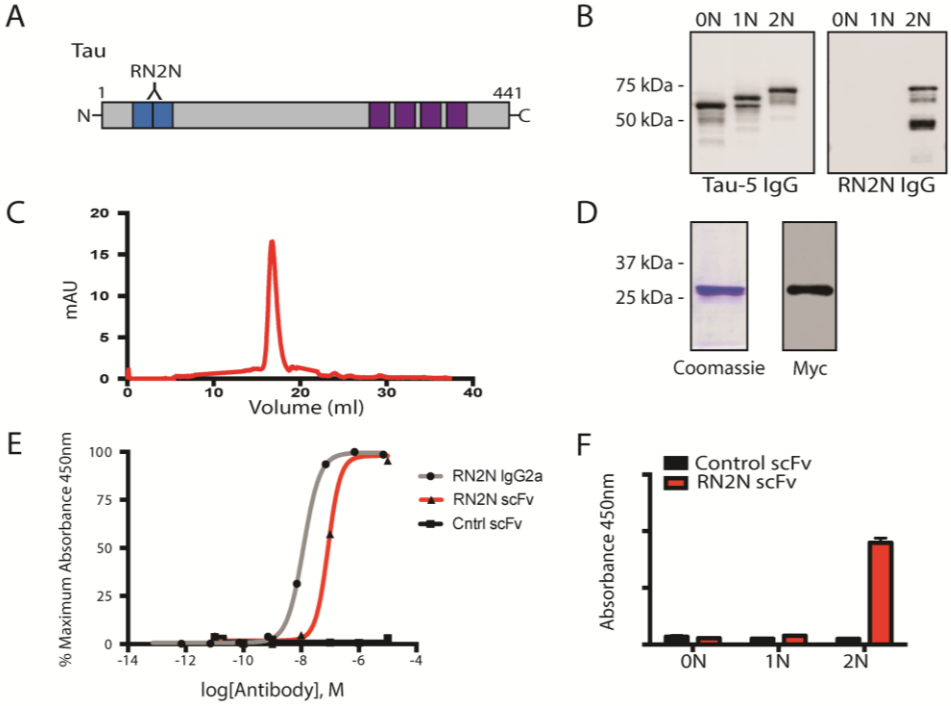
Supplementary Figure 1. RN2N scFv specifically recognizes 2N tau isoforms. (*A*) The six human brain tau isoforms each differ according to the presence of zero, one or two amino-terminal inserts (0N, 1N or 2N) (blue) and the presence of three or four microtubule-binding repeat domains (purple). RN2N detects an epitope that borders the two N-terminal inserts. (*B*) Recombinant 0N, 1N and 2N mouse tau isoforms were electrophoresed and western blotted with Tau-5 or RN2N IgG. (*C*) Size exclusion chromatography reveals RN2N scFv is a stable monomer. (*D*) Electrophoresed purified RN2N scFv is approximately 28 kDa in size and detectable via its C-terminal myc-tag. (*E*) The binding activity of the RN2N scFv and IgG were determined by ELISA on a human tau-coated plate and compared to a control scFv. The EC_{50} of the RN2N scFv and IgG were calculated to be 8.56×10^{-8} M and 1.2×10^{-8} M respectively. (*F*) The isoform specificity of RN2N scFv was determined by ELISA on a plate coated with 0N, 1N or 2N mouse tau isoforms and compared to a control scFv. RN2N scFv only bound to the 2N isoform.


A
Tau
RN2N
1
441
N
C
B
0N 1N 2N
0N 1N 2N
75 kDa -
50 kDa -
Tau-5 IgG
RN2N IgG
C
mAU
20
15
10
5
0
0
10
20
30
40
Volume (ml)
D
37 kDa -
25 kDa -
Coomassie
Myc
E
% Maximum Absorbance 450nm
100
75
50
25
0
-14
-12
-10
-8
-6
-4
log[Antibody], M
RN2N IgG2a
RN2N scFv
Cntrl scFv
F
Absorbance 450nm
Control scFv
RN2N scFv
0N
1N
2N