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Supplemental Information

Phase Separation of FUS Is

Suppressed by Its Nuclear Import

Receptor and Arginine Methylation

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SUPPLEMENTARY TABLES

Table S1 (related to Fig. 5): Thermodynamic parameters of ITC titrations

Cell	Syringe	Kd (nM)	ΔH (kcal* mol^{-1})	ΔS (cal* mol^{-1} *K)
TNPO1	RGG3-PY	3 ± 1	-26.5 ± 0.1	-49.7
TNPO1	meRGG3-PY	126 ± 20	-25.3 ± 0.1	-48.6
TNPO1	RGG3-PY (1M NaCl)	398 ± 31	-18.9 ± 0.4	-34.3
TNPO1	RGG3-PY P525L	27 ± 2	-17.6 ± 0.1	-24.5
TNPO1	meRGG3-PY P525L	356 ± 27	-17.4 ± 0.2	-28.6
TNPO1	RGG3-PY P525L (1M NaCl)	no detectable binding		

The reported errors correspond to the SD of the fit.

All the stoichiometry associated to the complex formation was equal to 1.

Table S2 (related to Fig. 4): Kinetic parameters of filter binding assays (RGG3-PY with RNA)

	unmeRGG3-PY	meRGG3-PY
Kd (μM)	1.01 ± 0.05	1.04 ± 0.14
Hill coefficient	3.55 ± 0.78	3.62 ± 0.6
N	6	6

The reported errors correspond to the mean \pm SD.

Table S3 (related to Figure STAR Methods): Sequences of PCR primers and oligonucleotides

Name	Source	Sequence
PCR primer		
Sall_flag_F	Microsynth AG	AAAAGTCGACATGGAC TACAAGGACGACGAT G
HindIII_Tev-His ₆ -FUS_R	Microsynth AG	GTGCCAAGCTTTCAGT GATGATGATGATGATG GCTTTGGAAATACAGA TTTTCATACGGCCTCT CCCTGCGATCC
Tev_F	Microsynth AG	AATTCGGCGGCGAAA ATCTGTATTTCCAAAG CG
Tev_R	Microsynth AG	TCGACGCTTTGGAAAT ACAGATTTTCGCCGCC G
Sall_FUS_F	Eurofins	AAAAGTCGACATGGCC TCAAACGATTATA
BamHI_FUS_R	Eurofins	TTTTGGATCCATACGG CCTCTCCCT
FUS wt-EGFP mut P525L_F	Eurofins	AGGGAGAGGCTGTAT GGATCCGGCGCACCT GGCTCA
FUS wt-EGFP mut P525L_R	Eurofins	TGAGCCAGGTGCGCC GGATCCATACAGCCTC TCCCT
HindIII_FUS453X-Tev-His ₆ _R	Sigma	TTTTAAGCTTTCAGTG ATGATGATGATGATGG CTTTGGAAATACAGAT TTTCGCCATCTGGTTT AGGGGCCTTACA
XhoI_FUS_F	Sigma	AAAACCTCGAGATGGCC TCAAACGATTATACCC AAC
FUS 454_NcoI_F	Sigma	GATACCATGGGCCCA GGAGGGGGACCAGGT GG
P45	Sigma	AATTTAATACGACTCA CTATAG
P132	Sigma	ATTGTTTCGTGATAAT GTCTCTTATTAGTTGA AAGAGATTCAAGTATC CATCTATAGTGAGTCG TATTAATT
TagRFP_AgeI	Sigma	TTTTTACCGGTC GCCACCATGGTGTCTA AGGGCGA

TagRFP_EcoRV_R	Sigma	TTTTTGATATCCATTAA GTTTGTGCCCCAGTTT
TagRFP_SpeI	Sigma	TTTTTACTAGTCATGG TGTCTAAGGGCGA
TagRFP_AgeI_R	Sigma	TTTTTACCGGTCCATT AAGTTTGTGCCCCAGT TT
FUS_EcoRV_F	IDT	AATTCGATATCCCATG GCCTCAAACGATTATA CCCAACAAG
FUS_BamHI_R	IDT	CGGGATCCTTAATACG GCCTCTCCCTGCGATC C
FusP525L_BamHI_R	Sigma	TTTTTGGATCCTTA ATACAGCCTCTC
MBP_NcoI_F	Sigma	CGCCACCATGAA AACG
MBPLinker_Tev_EcoRI	Sigma	GAATTCTGAAATGCCT TGGAATACAGATTTT CCCCGAG GTTGTTGTTATTGTTAT TGTT
Oligonucleotides		
(UG) ₁₀ RNA	Eurofins	UGUGUGUGUG UGUGUGUGUG