The Nek2 centrosome-mitotic kinase contributes to the mesenchymal state, cell invasion, and migration of triple-negative breast cancer cells.

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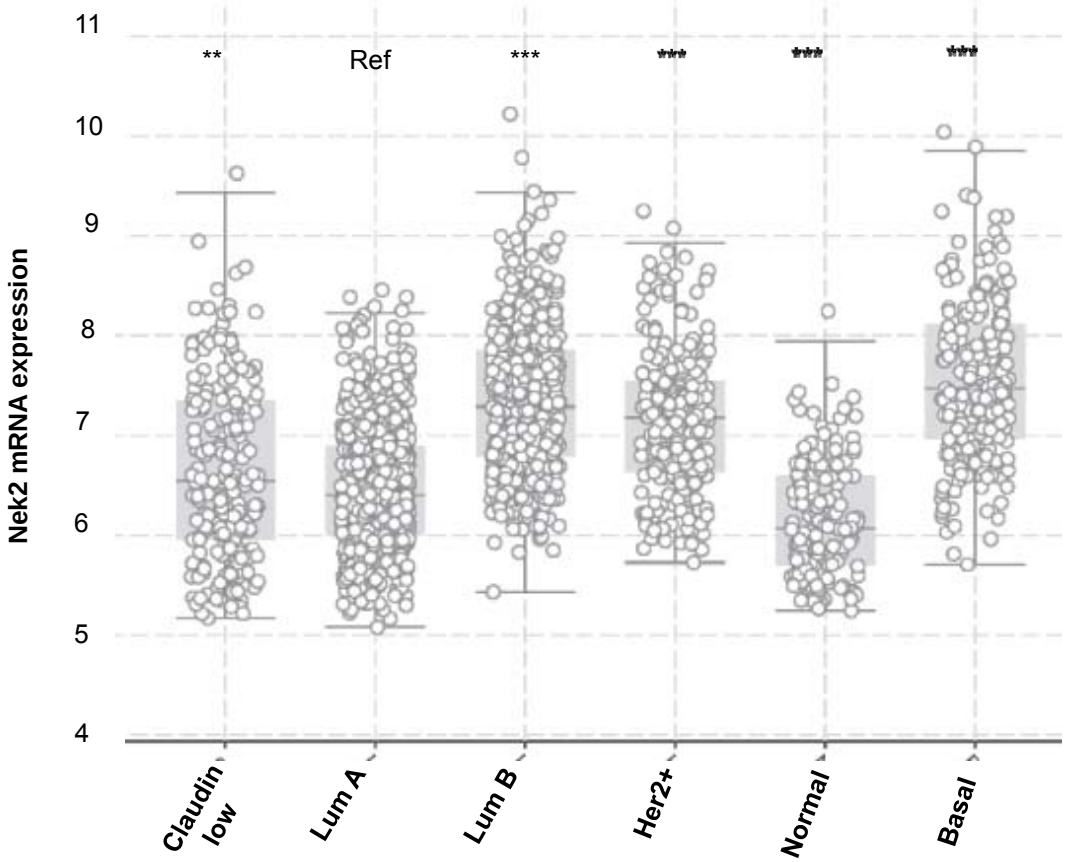
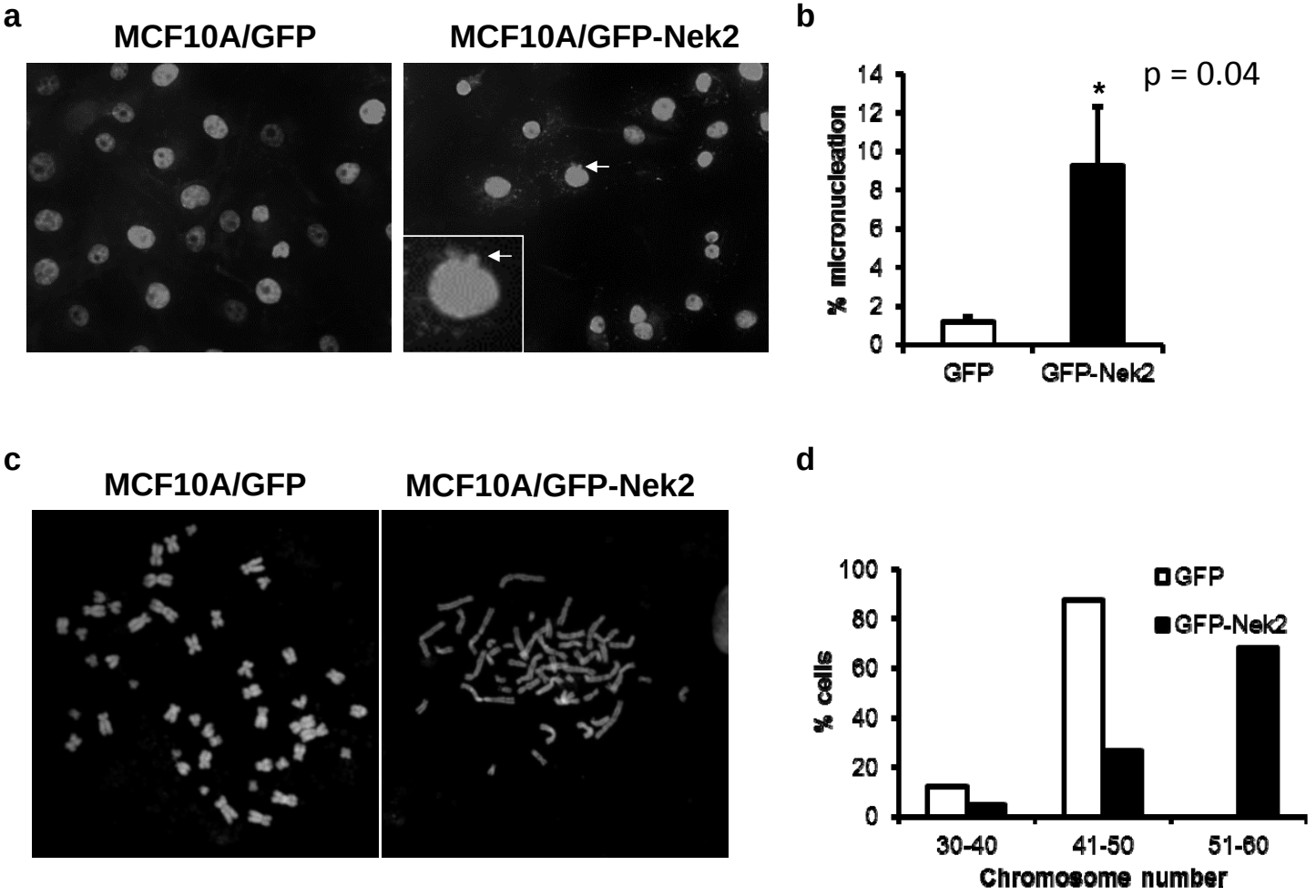
Supplementary Figure 1. Nek2 mRNA expression in different breast cancer subtypes using Oncomine

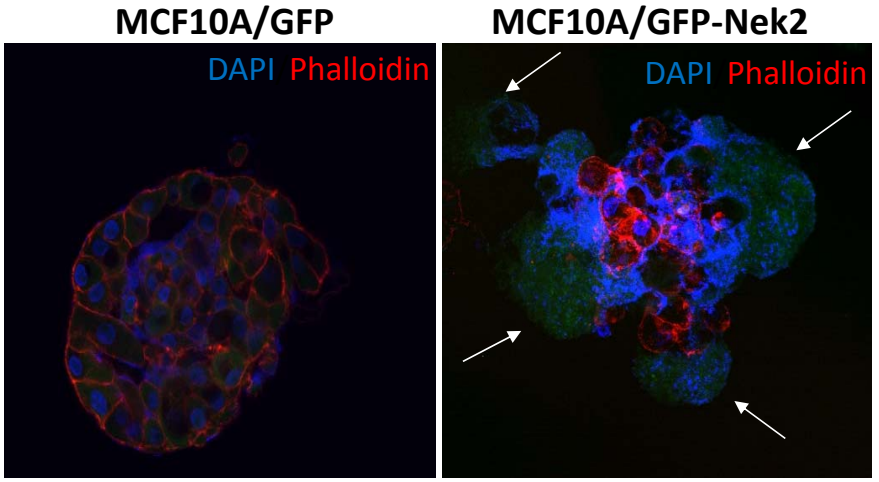


Supplementary Figure 2. Nek2 overexpression causes chromosome instability.

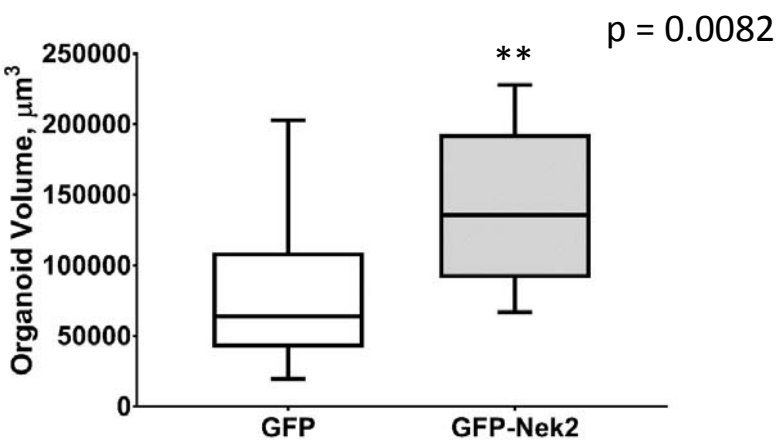


Supplementary Figure 3. Nek2 overexpression increases organoid size

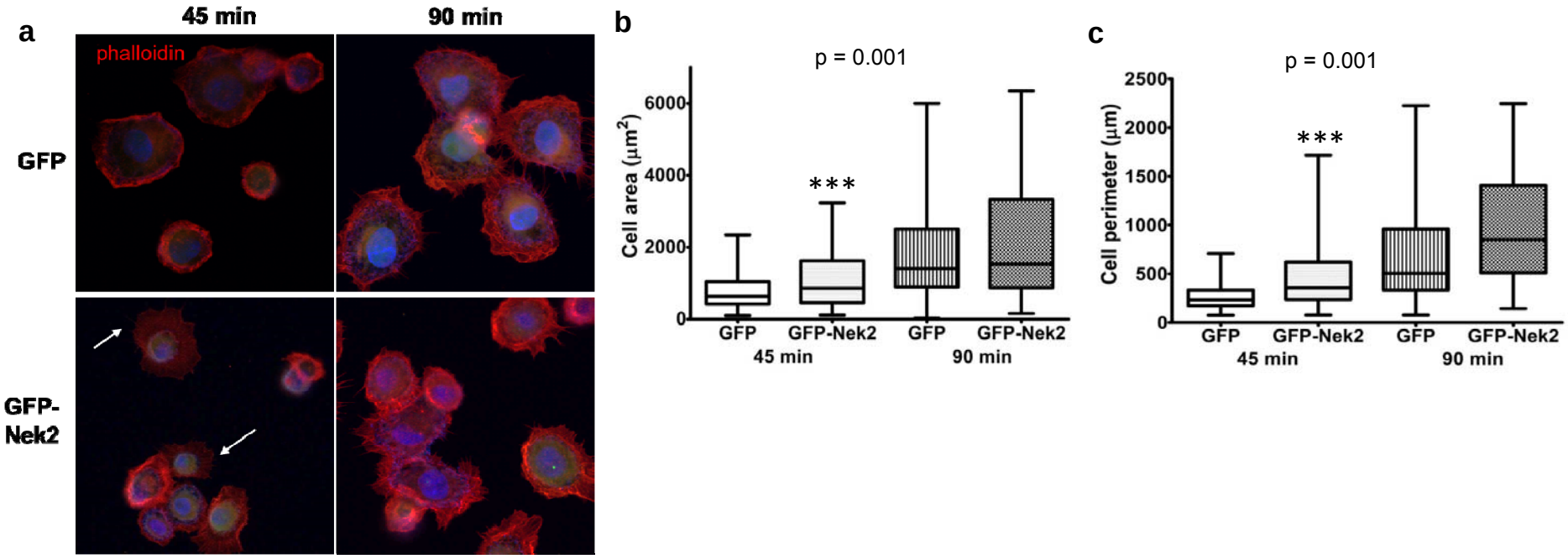
a



b



Supplementary Figure 4. Nek2 overexpression increases cell spreading



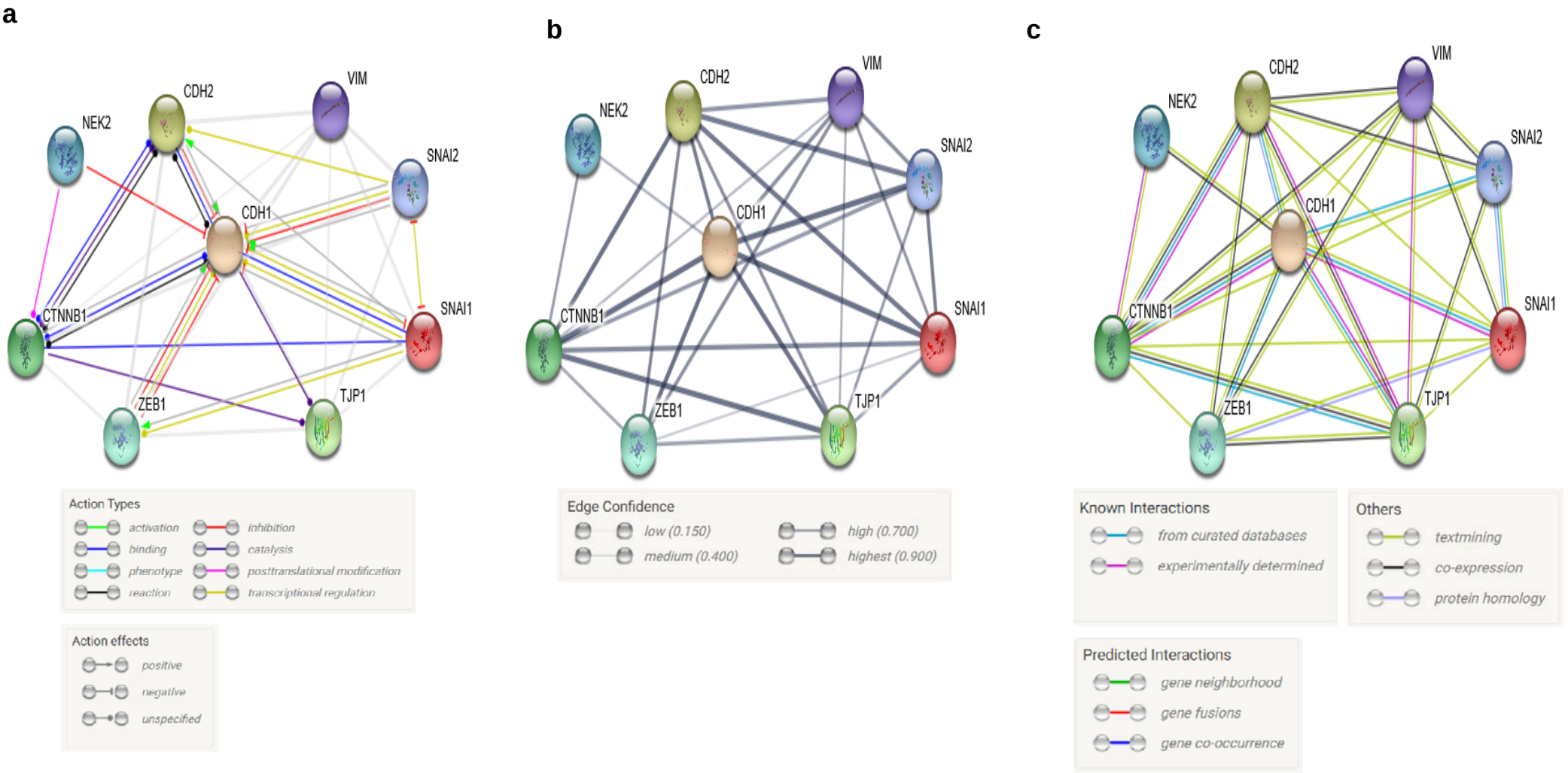
Supplementary Table 1. Gene expression of Nek2 in different molecular breast cancer subtypes

	Luminal A	Luminal B	Basal	Her2+	Normal-Like	Claudin-Low
Number of patients with the indicated subtype	679	461	199	220	140	199
Number of patients overexpressing Nek2	0	24	20	10	0	5
Percentage of patients overexpressing Nek2	0	5.2 %	10 %	4.5 %	0 %	2.5 %
Number of patients with Amplified Nek2	215	121	25	40	15	15
Percentage of patients with Amplified Nek2	31.7 %	26.2 %	12.6 %	18.2 %	10.7 %	7.5 %

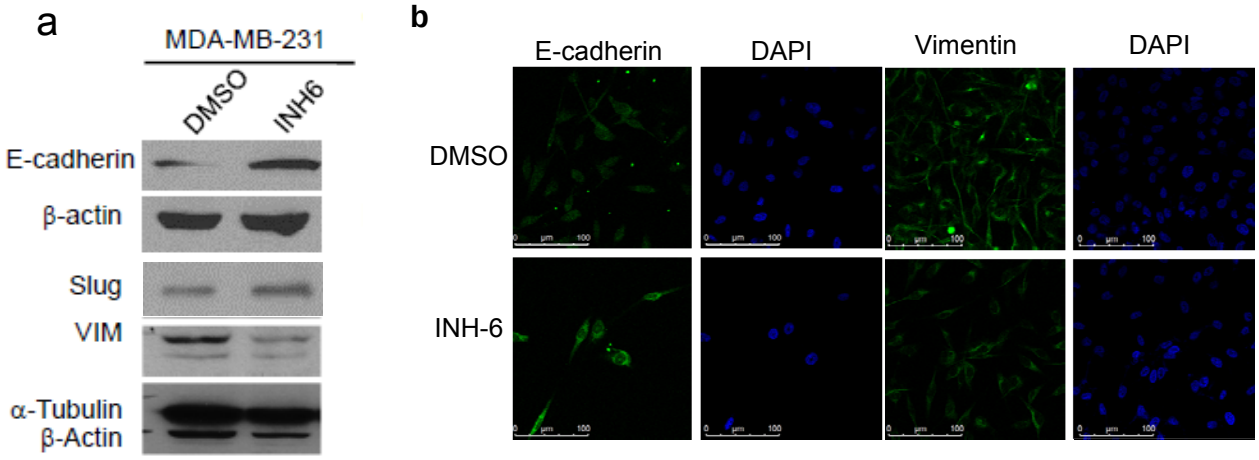
Supplementary Table 2. Nek2 overexpression causes mitotic perturbations

Phenotype	%	
	MCF10A/GFP	MCF10A/GFP-Nek2
Normal division	98.67	68.06
Tripolar division	0.44	3.47
Binucleation	0.44	12.5
Cytokinesis defects	0	10.42
Cell death	0.44	5.56

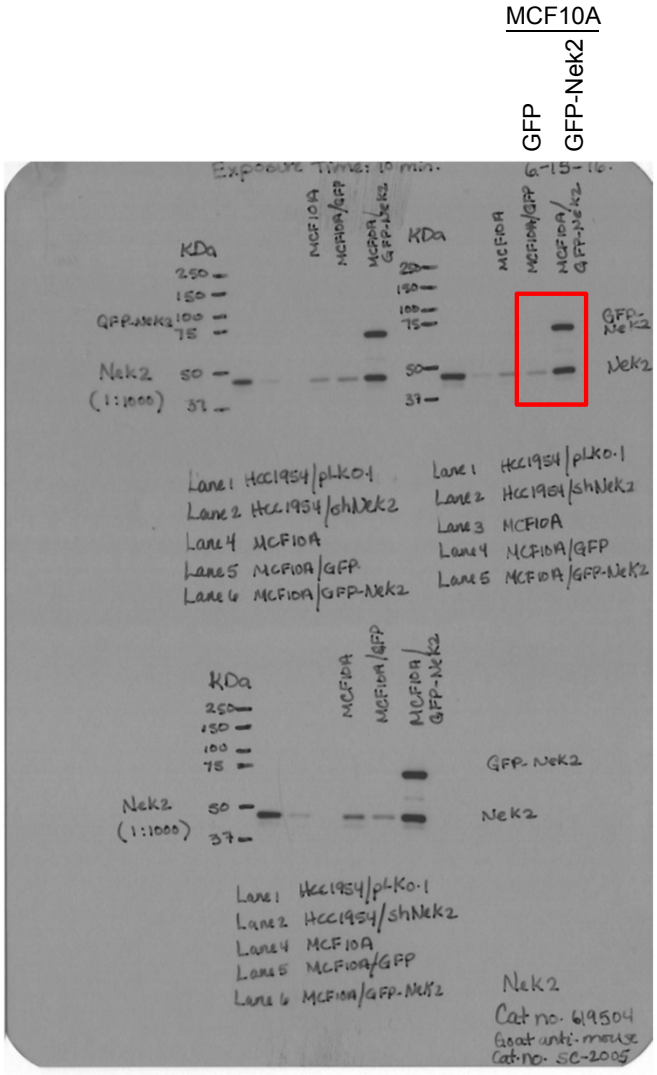
Supplementary Figure 5. String analysis predicted interactions between Nek2 and EMT proteins.



Supplementary Figure 6. The INH-6 Nek2 inhibitor suppresses EMT markers

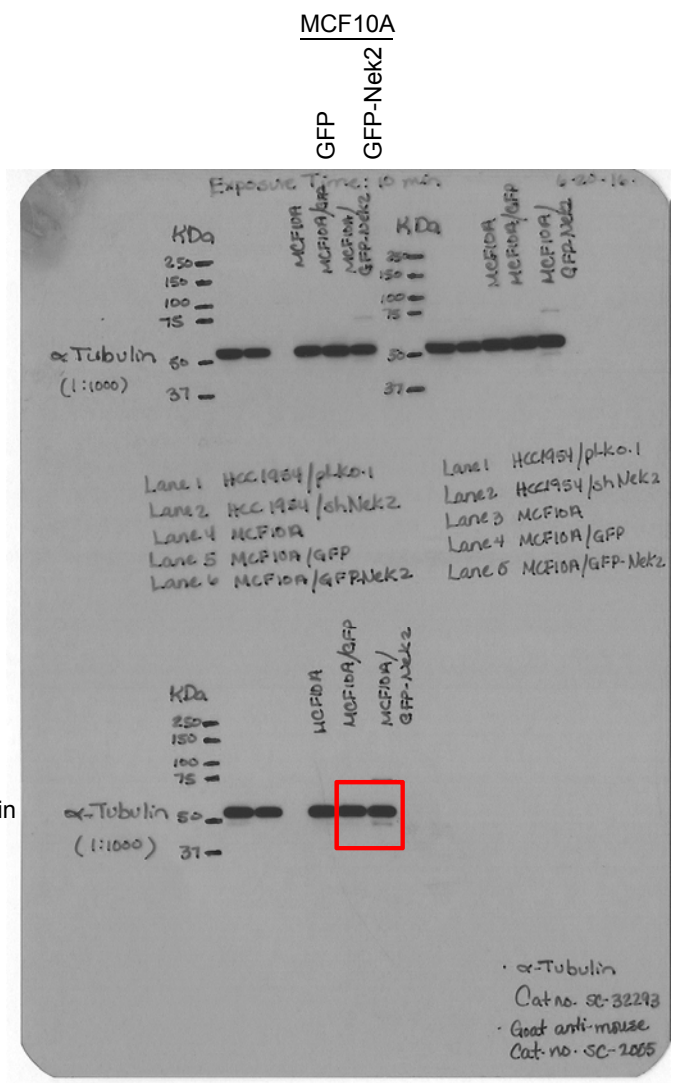


Original Western Blots for Fig. 1a.



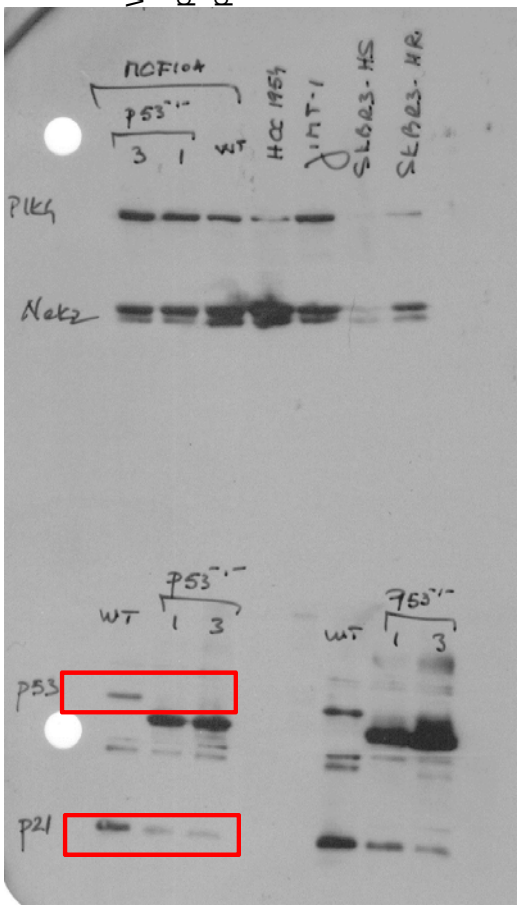
GFP-Nek2

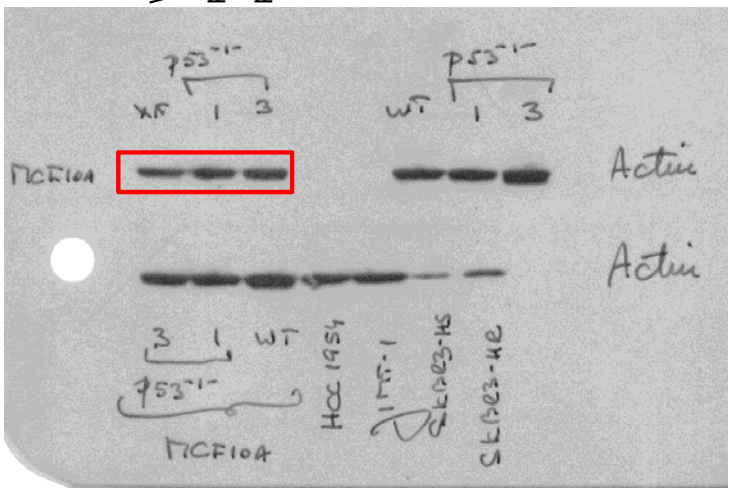
Nek2

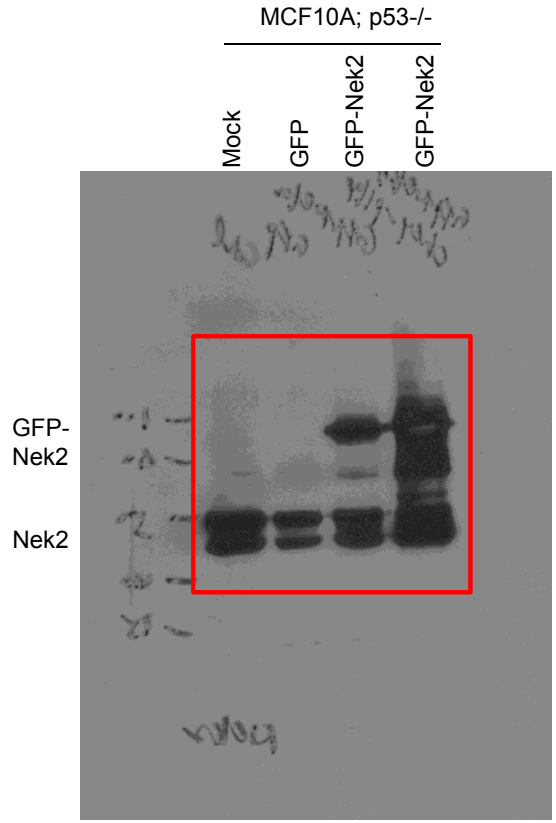


α-Tubulin

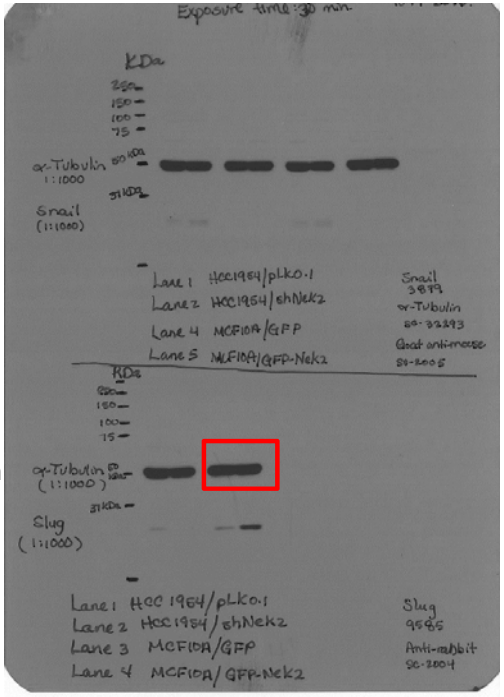
Original Western Blots for Fig. 2b and c

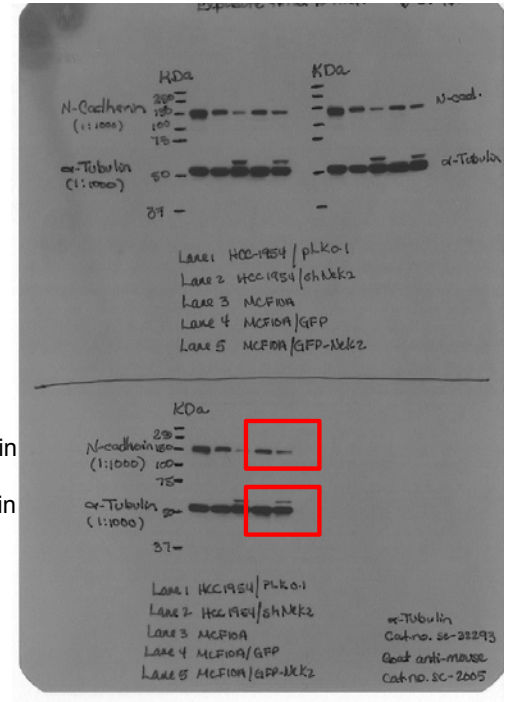


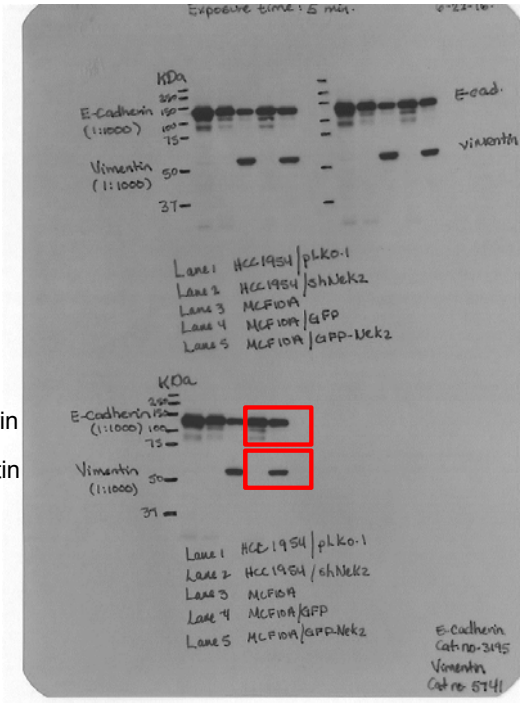




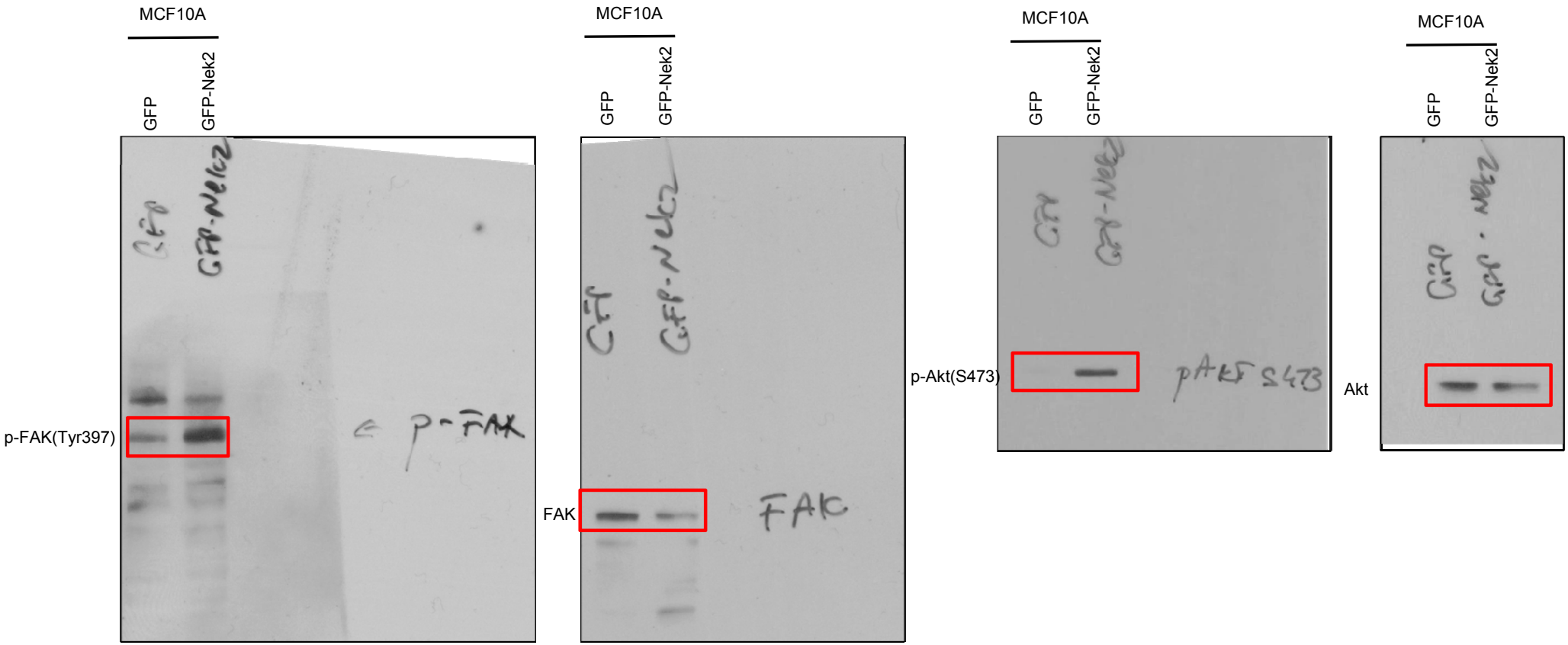
Original Western Blots for Fig. 3a



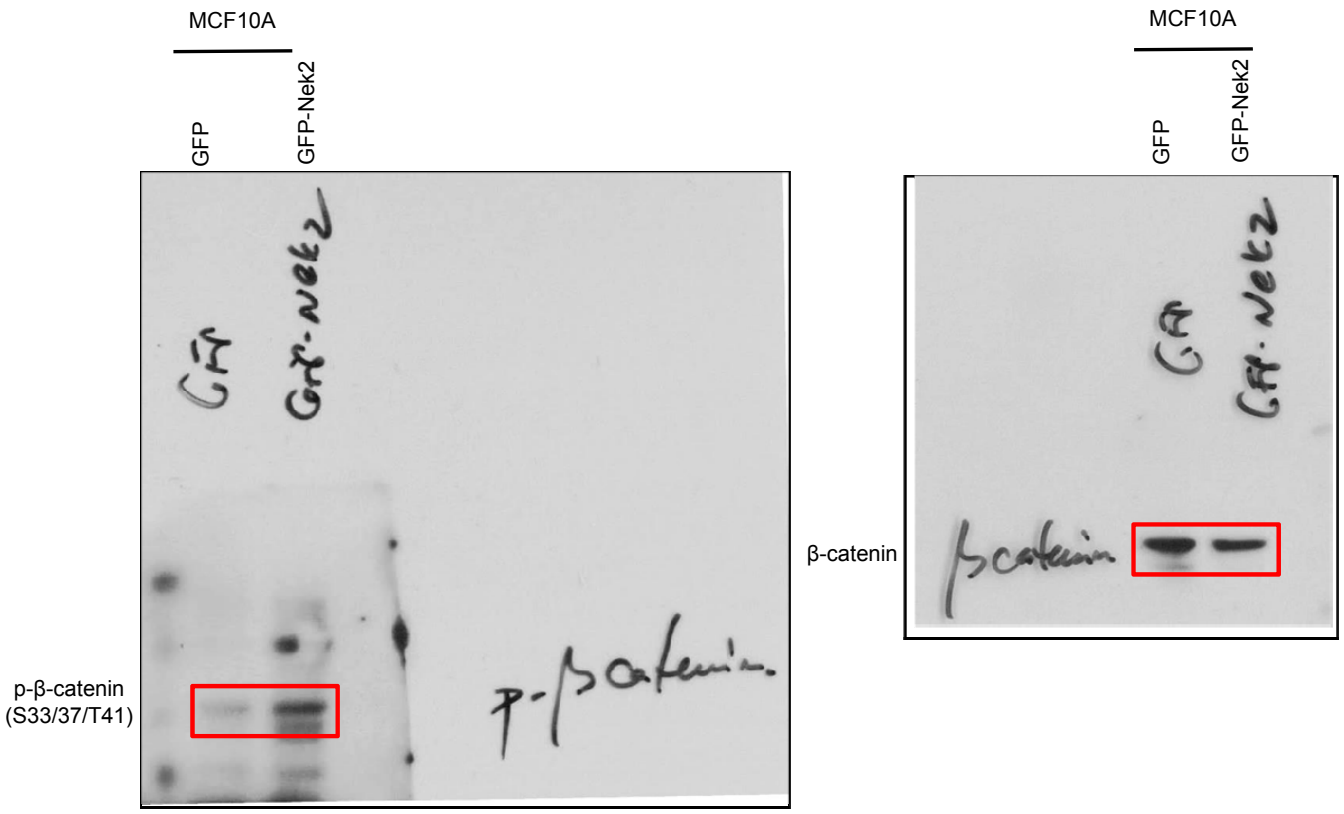




Original Western Blots for Fig. 3b



Original Western Blots for Fig. 3c

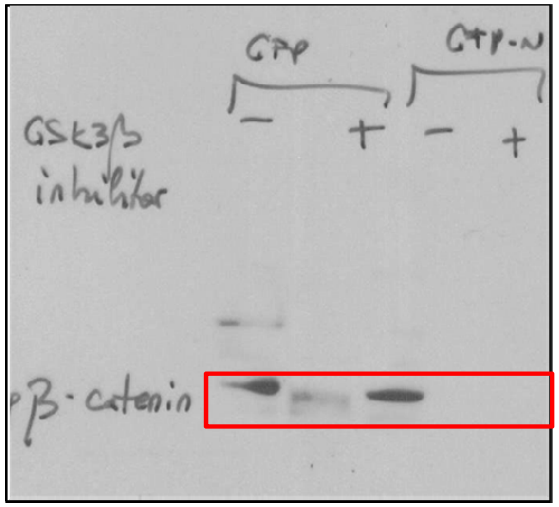


Original Western Blots for Fig. 3d

MCF10A

GFP GFP-Nek2

100 nM GSK3β inhibitor - + - +

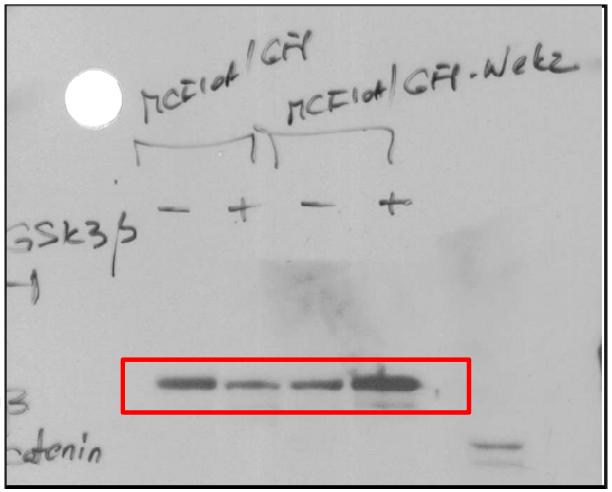


p-β-catenin (S33/37/T41)

MCF10A

GFP GFP-Nek2

100 nM GSK3β inhibitor - + - +

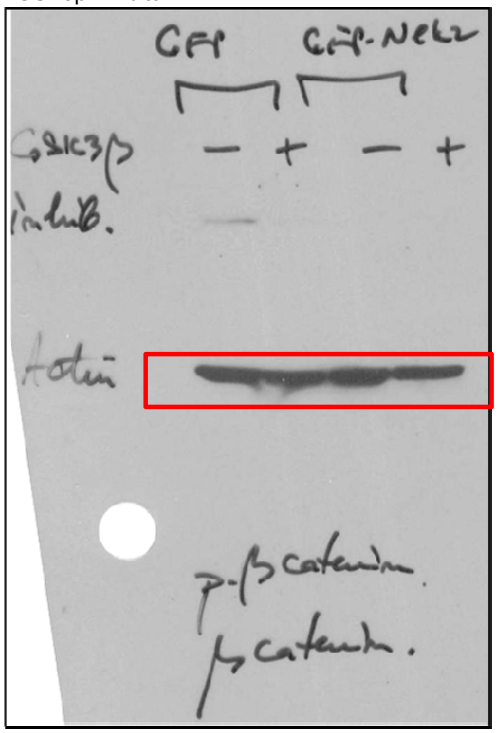


β-catenin

MCF10A

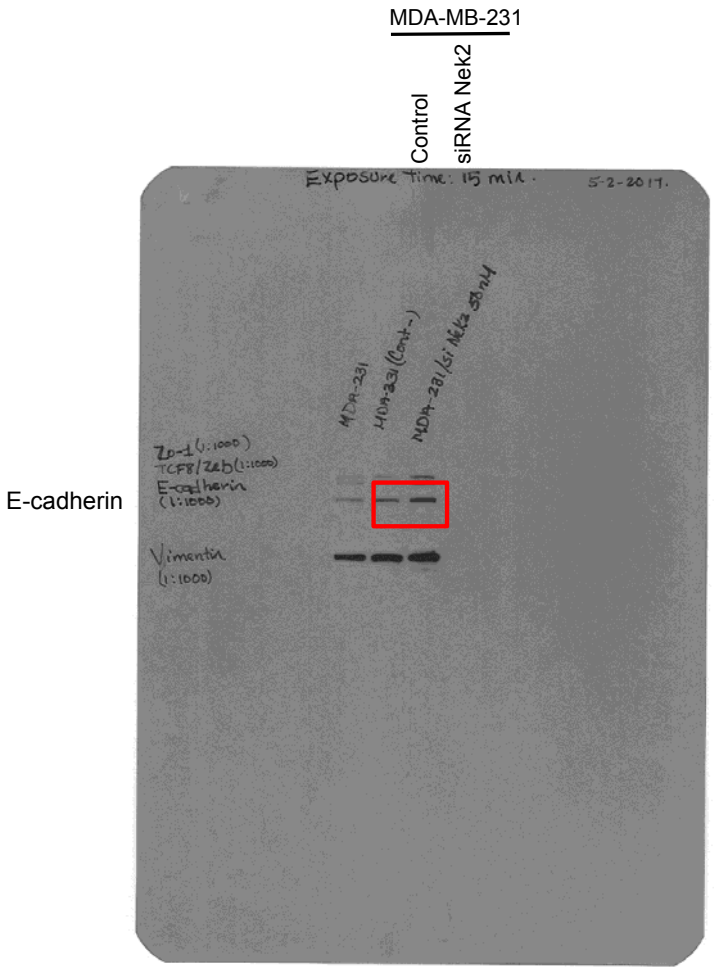
GFP GFP-Nek2

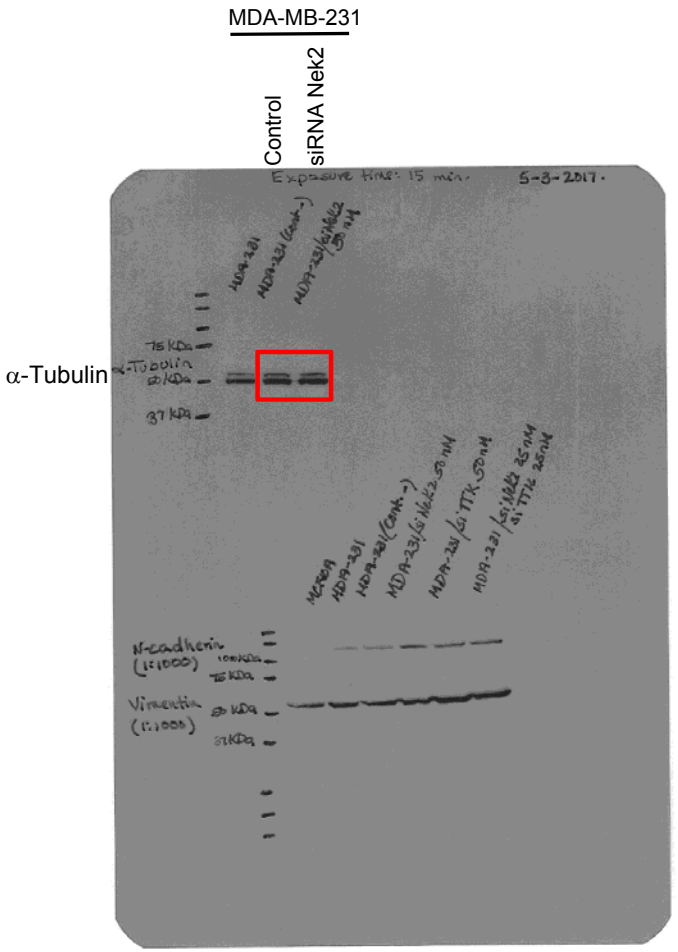
100 nM GSK3β inhibitor - + - +



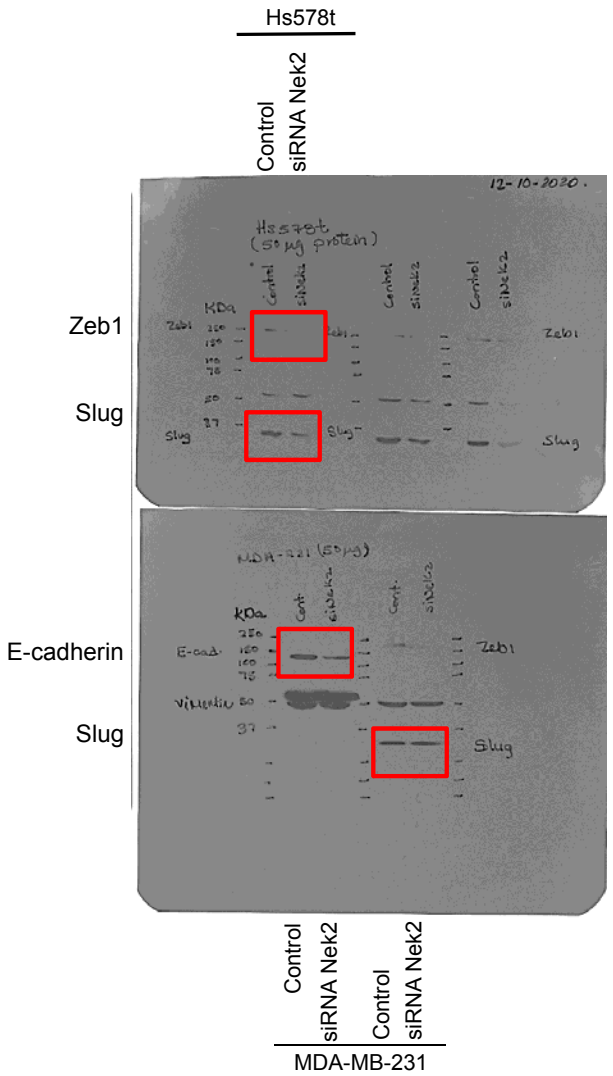
Actin

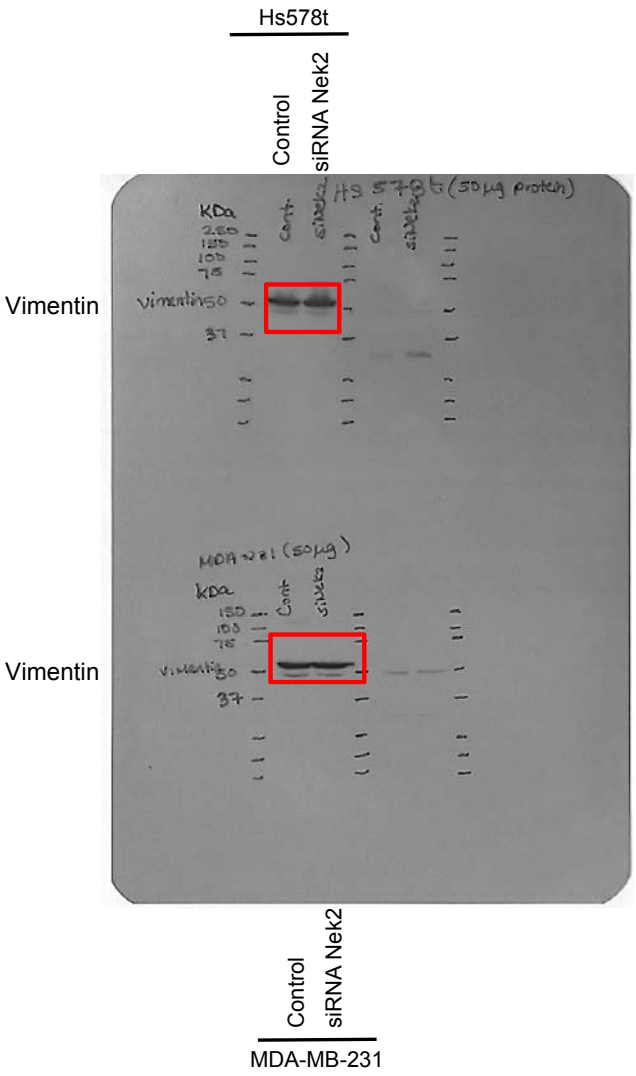
Original Western Blots for Fig. 4 a-b





Original Western Blots for MDA-MB-231 and Hs578t (Fig. 4 a-b)



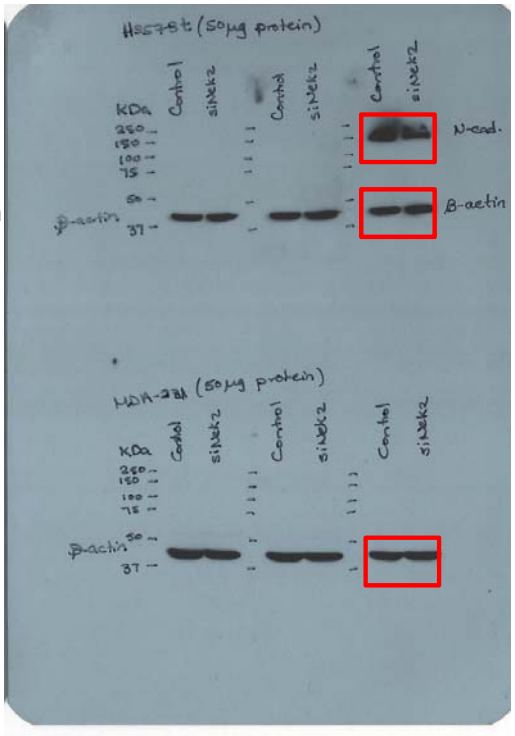


Original Western Blots for Fig. 4 a-b

Hs578t

N-Cadherin

β-actin

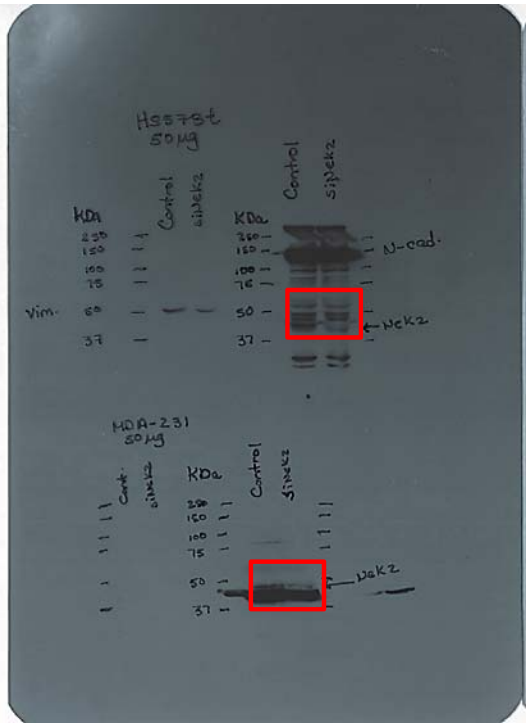


β-actin

MDA-MB-231

Hs578t

Nek2

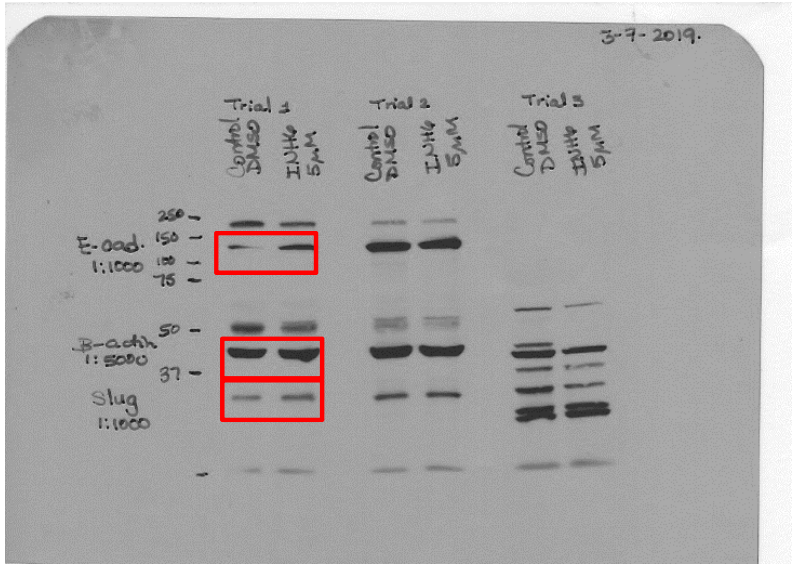


Nek2

MDA-MB-231

Original Western Blots used for Supplementary Figure 6

DMSO INH-6

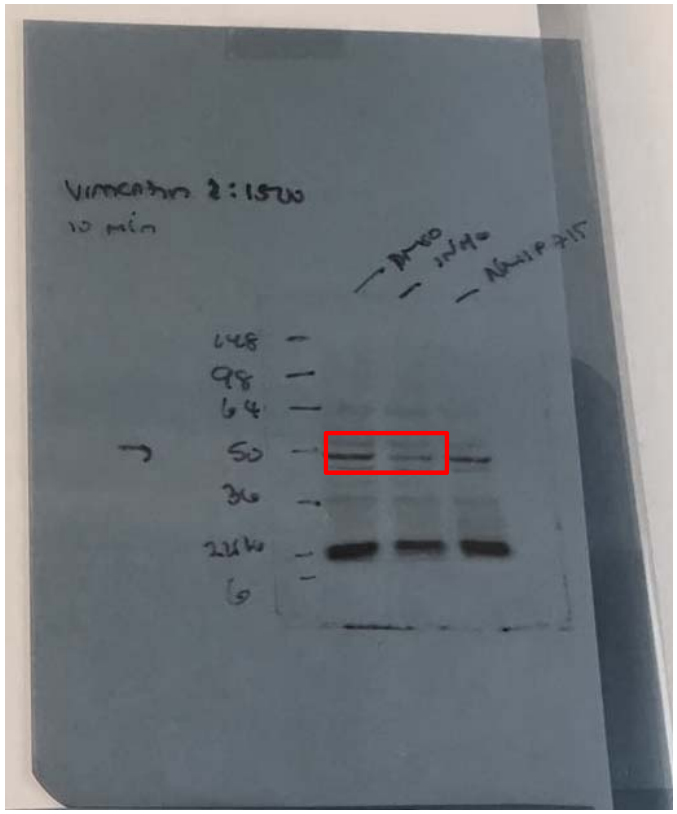


E-cadherin

β-actin

Slug

DMSO INH6



Vimentin

Original Western Blots used for Supplementary Figure 6