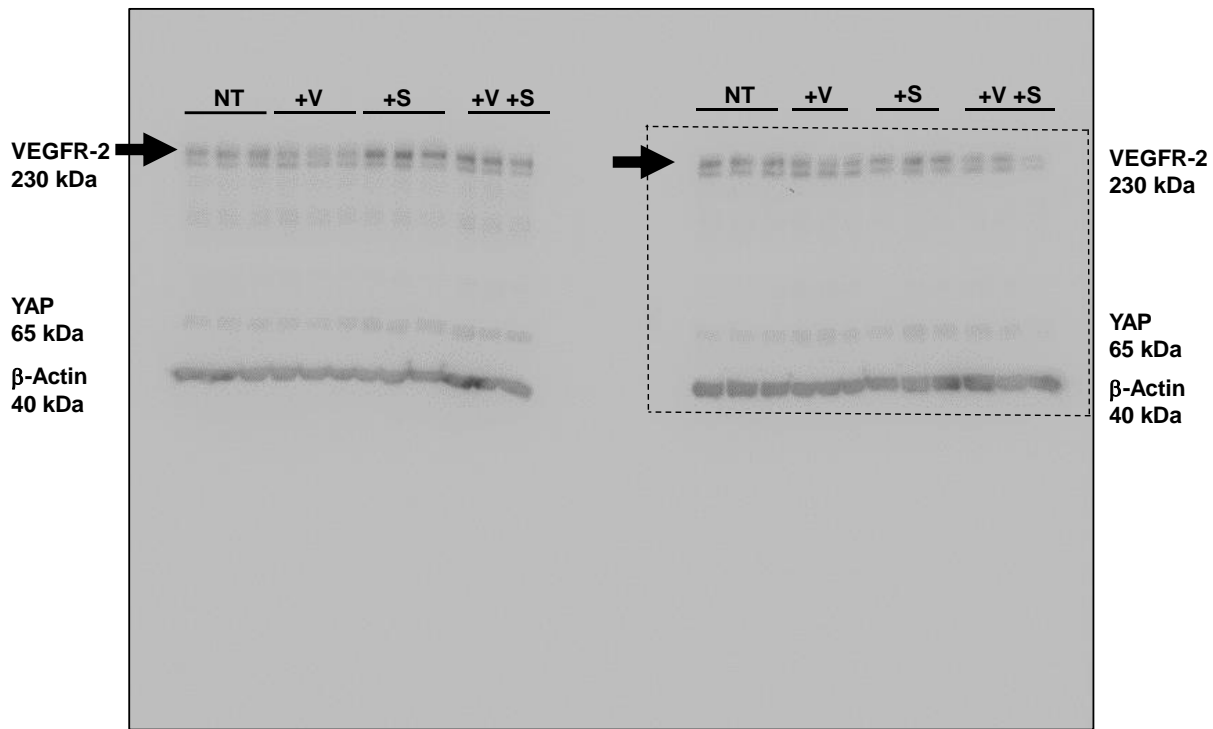
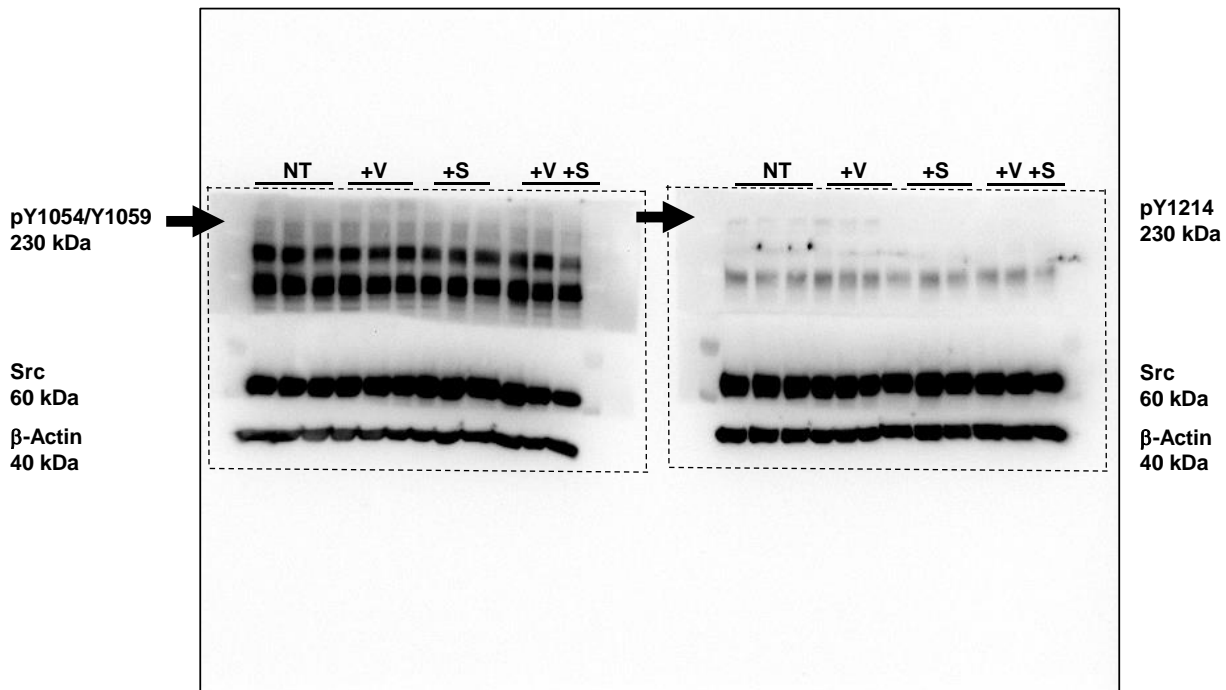


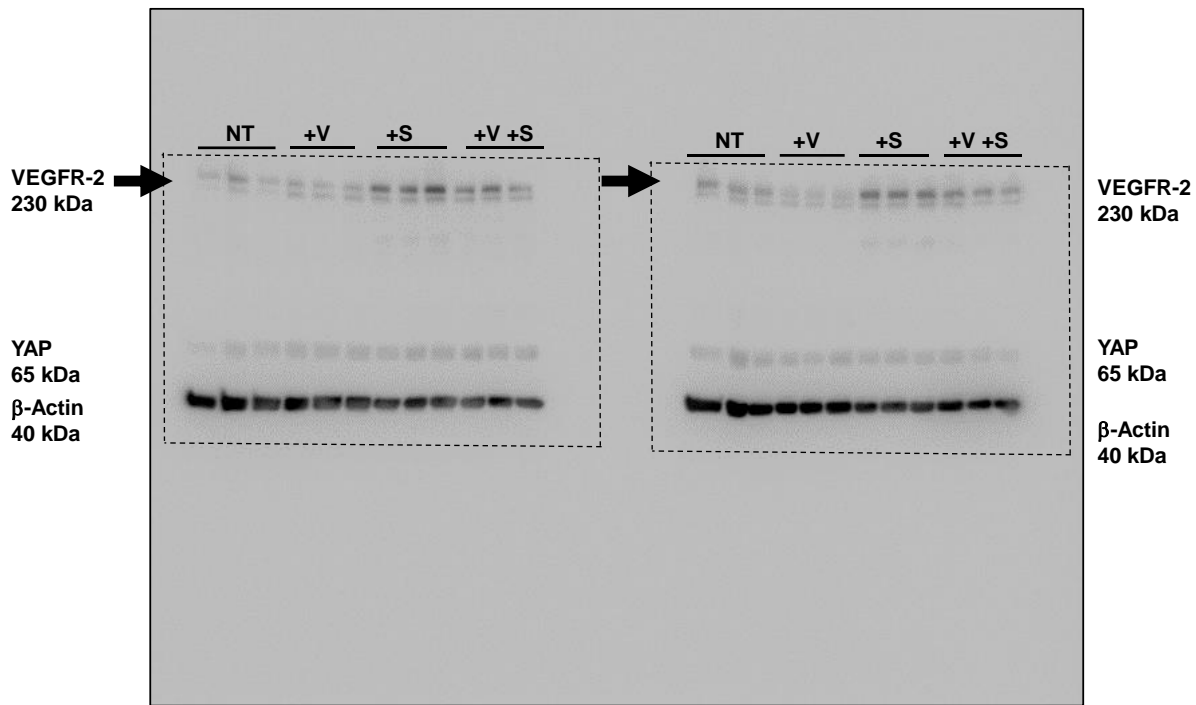
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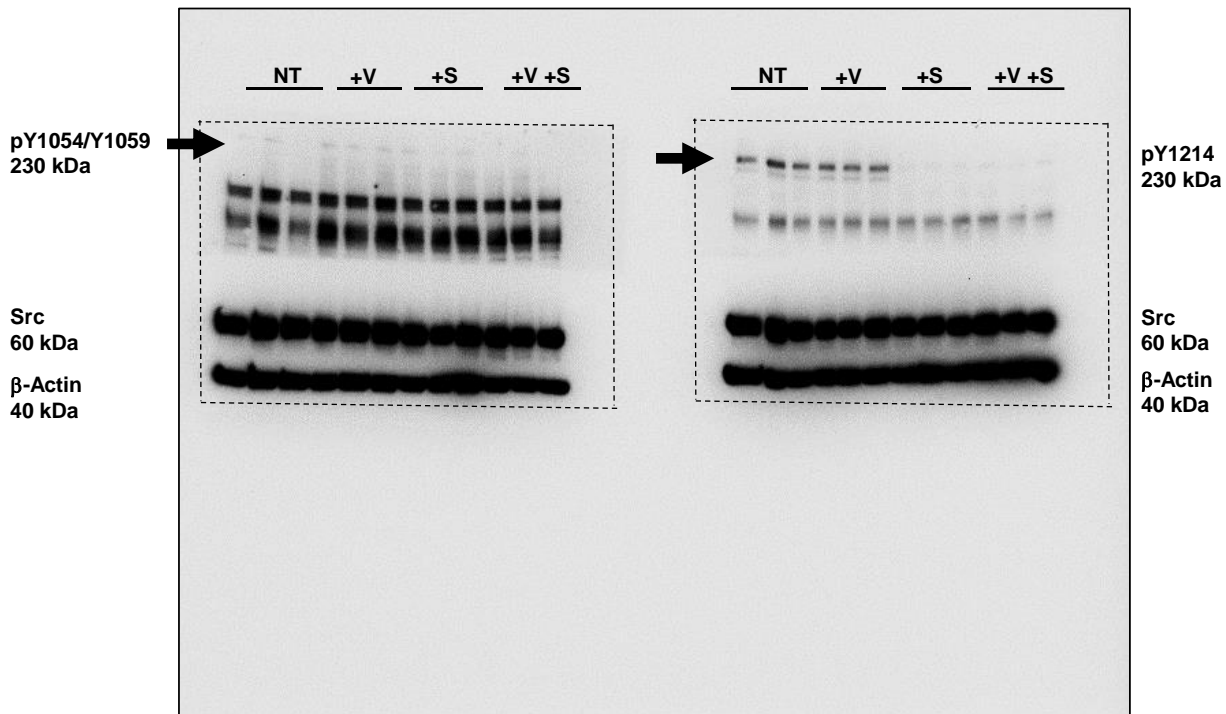
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1c



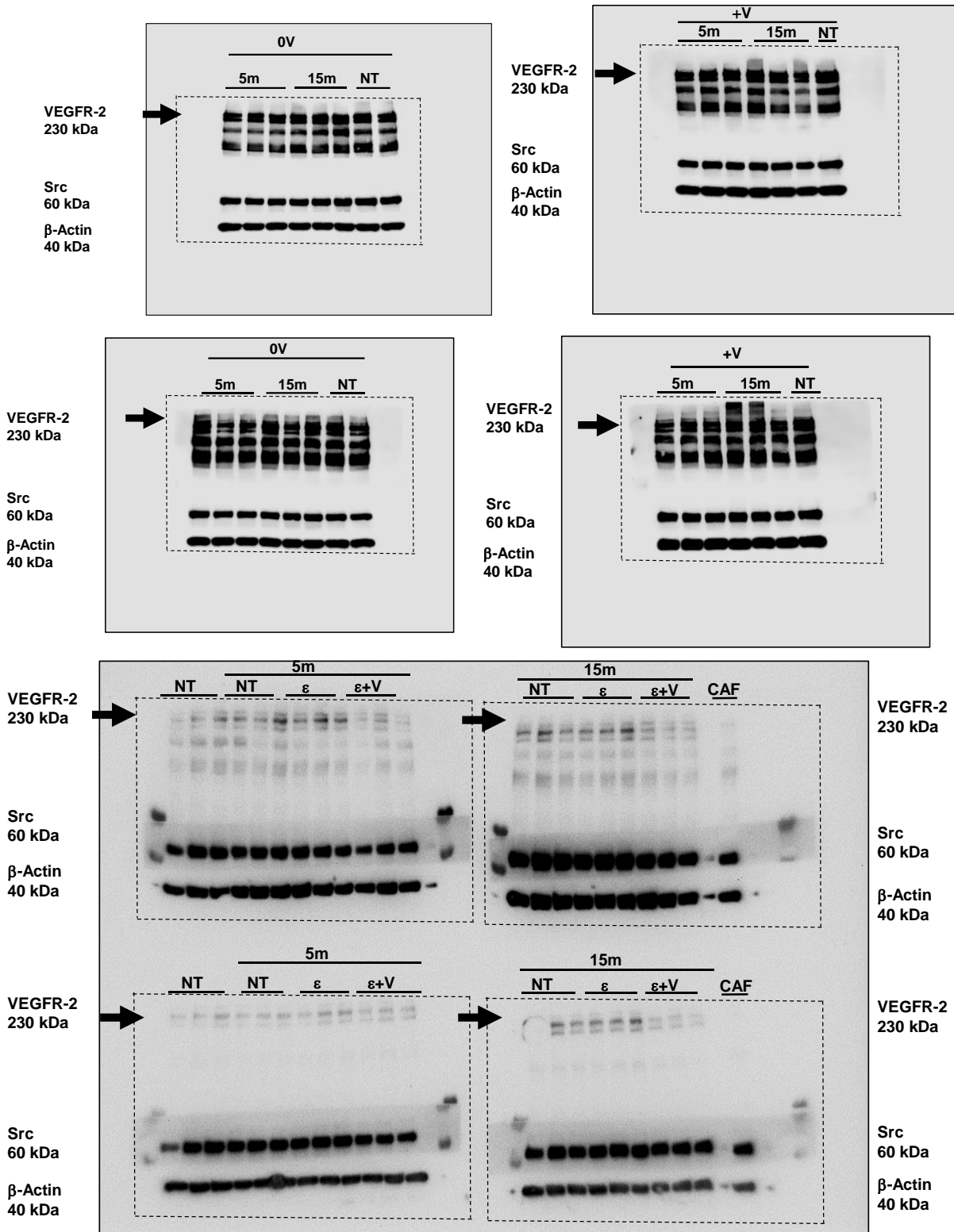
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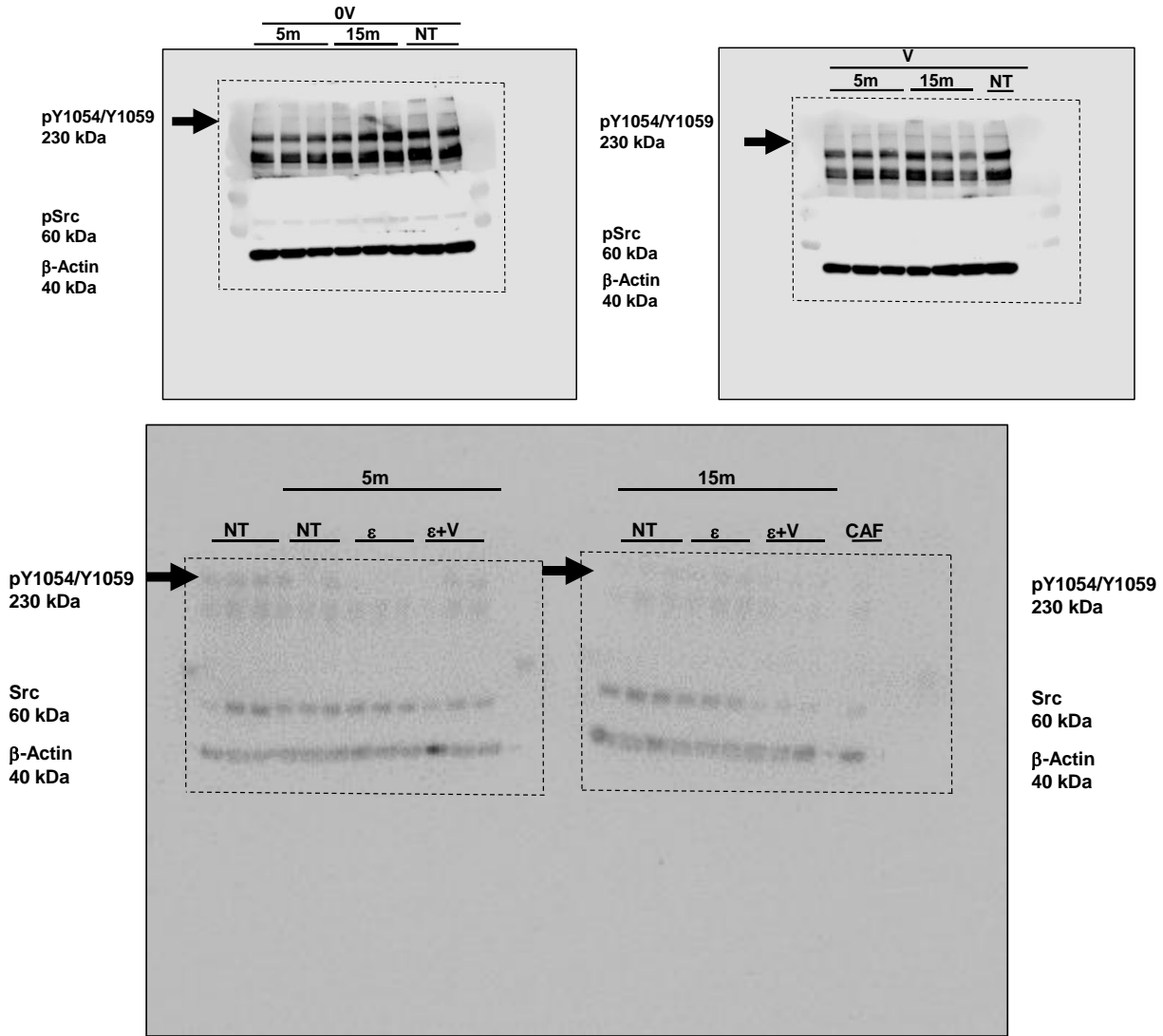
Supplemental Fig. 1 – Labelled Western Blots for Data in Fig. 1. This figure matches Fig. 1 in the main text. **(a)** HMECs were either given no treatment (NT), exogenous VEGF (+V), SU5416 (+S), or both exogenous VEGF and SU5416 (+V +S). Blots were stained for total VEGFR-2, **(b)** pY1054/Y1059, and pY1214. **(c-d)** HUVECs received the same treatments and stains. All blots were

also stained for YAP or Src and β -actin as a loading control. Arrows indicate VEGFR-2 bands quantified.

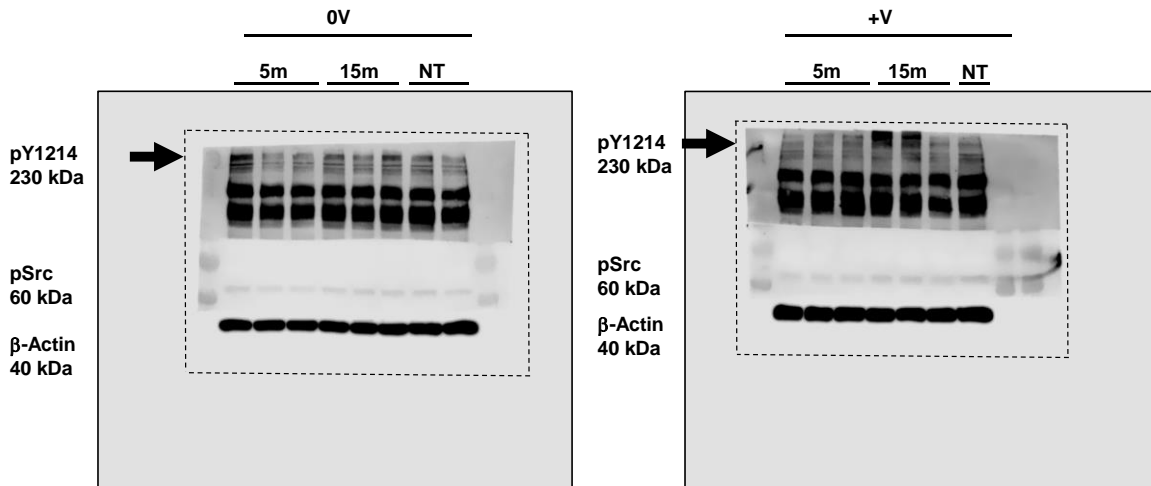
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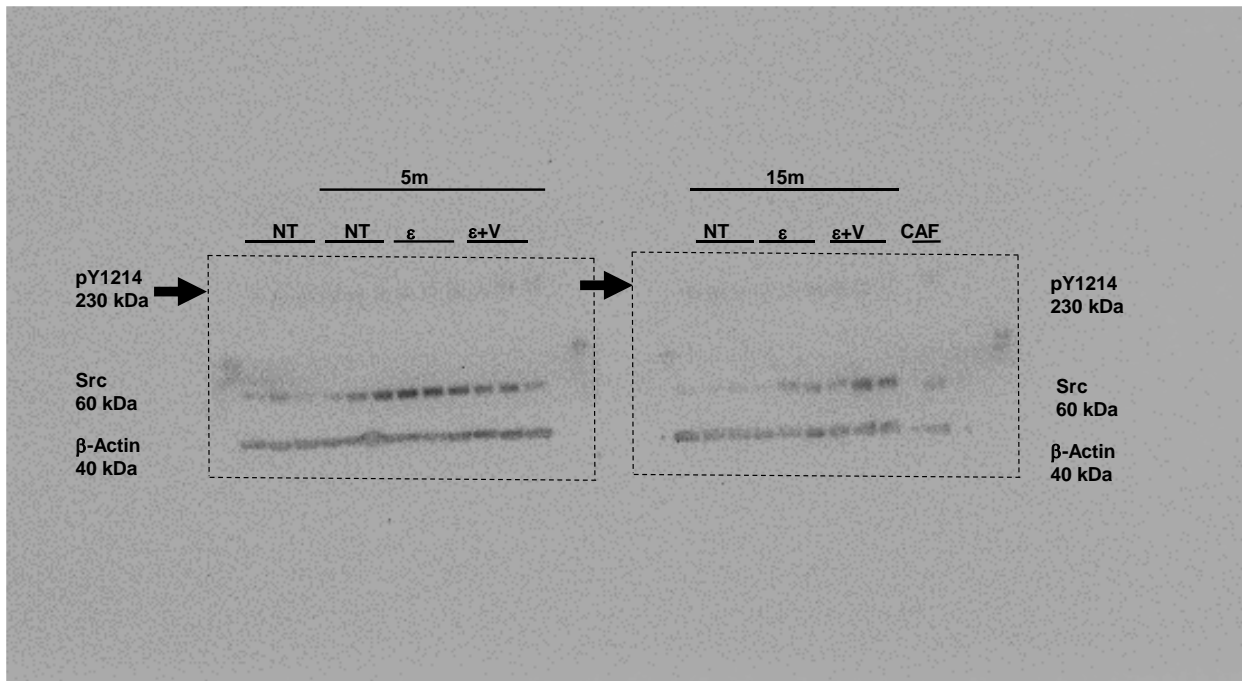


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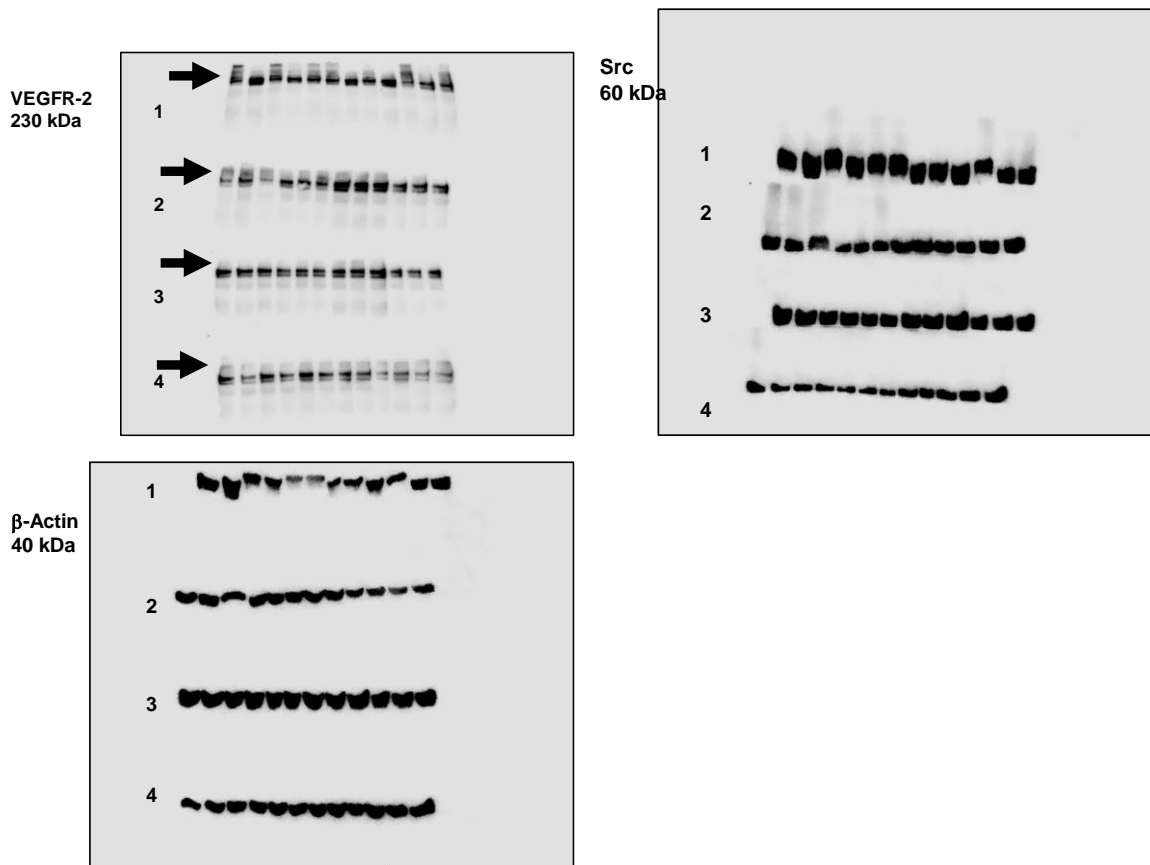


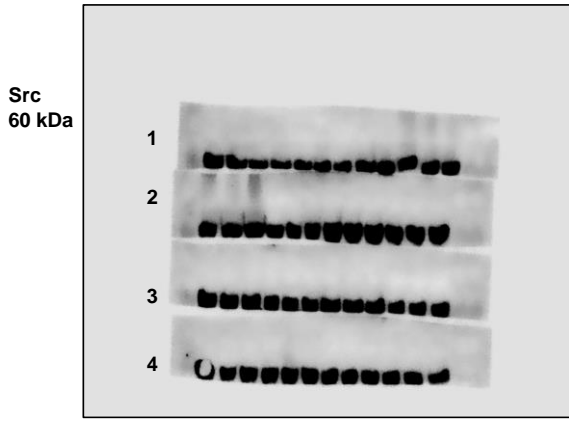
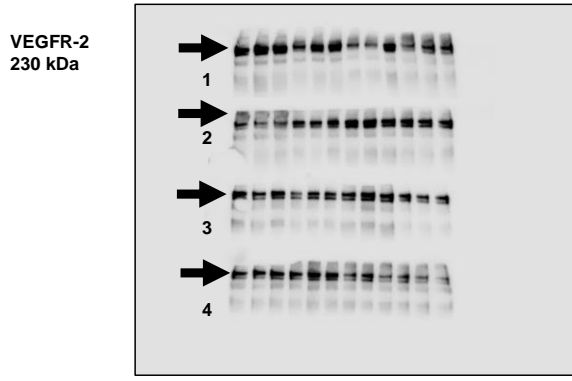
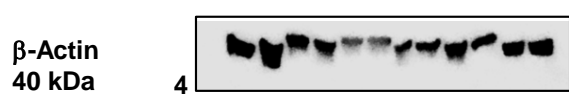
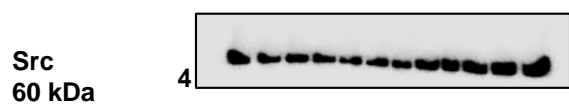
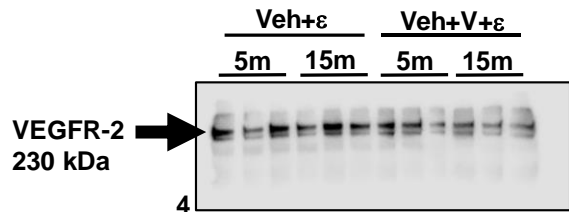
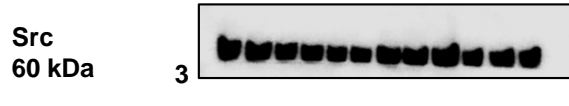
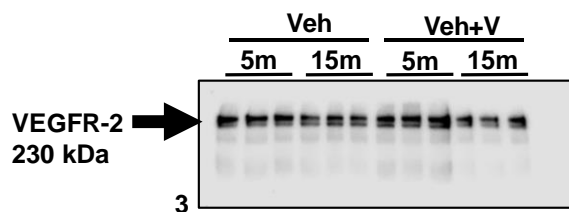
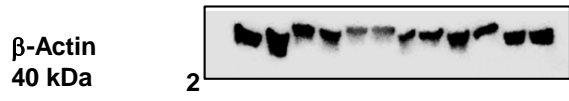
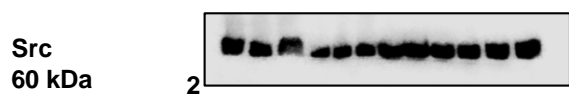
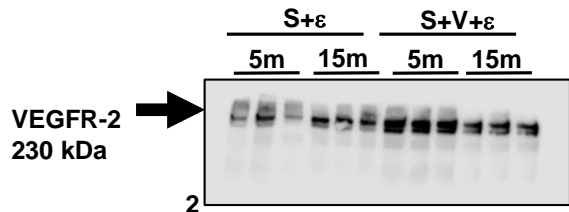
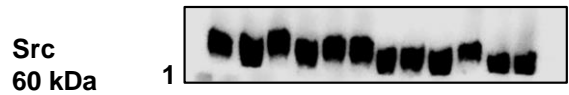
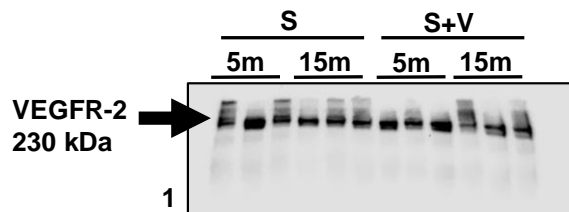
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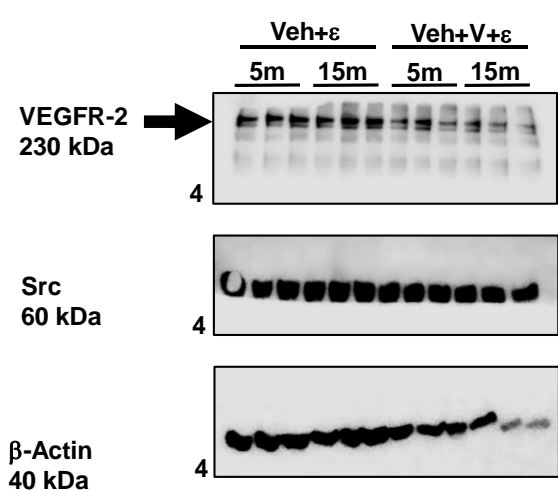
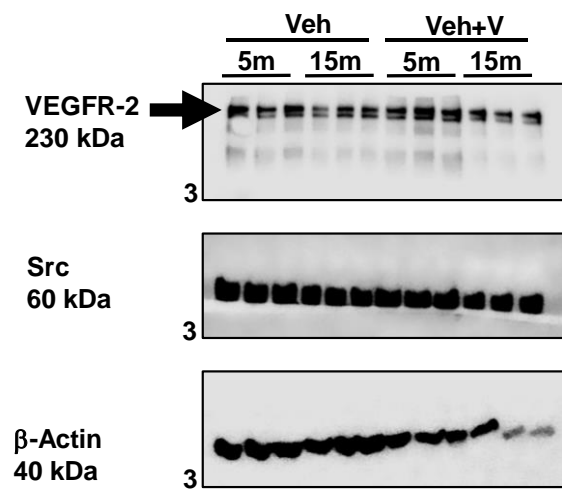
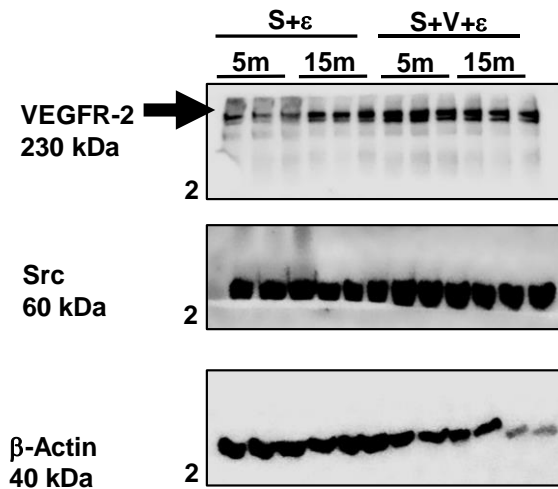
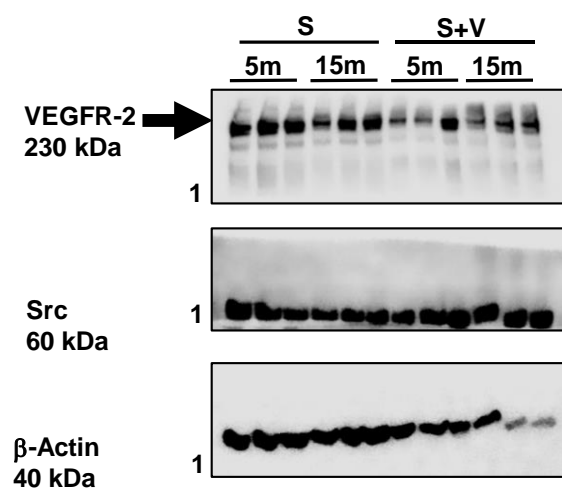
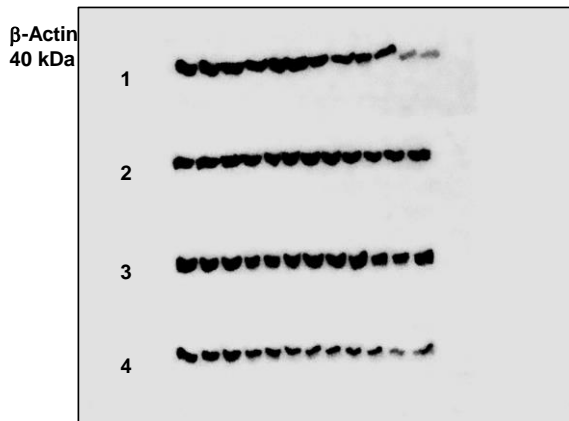




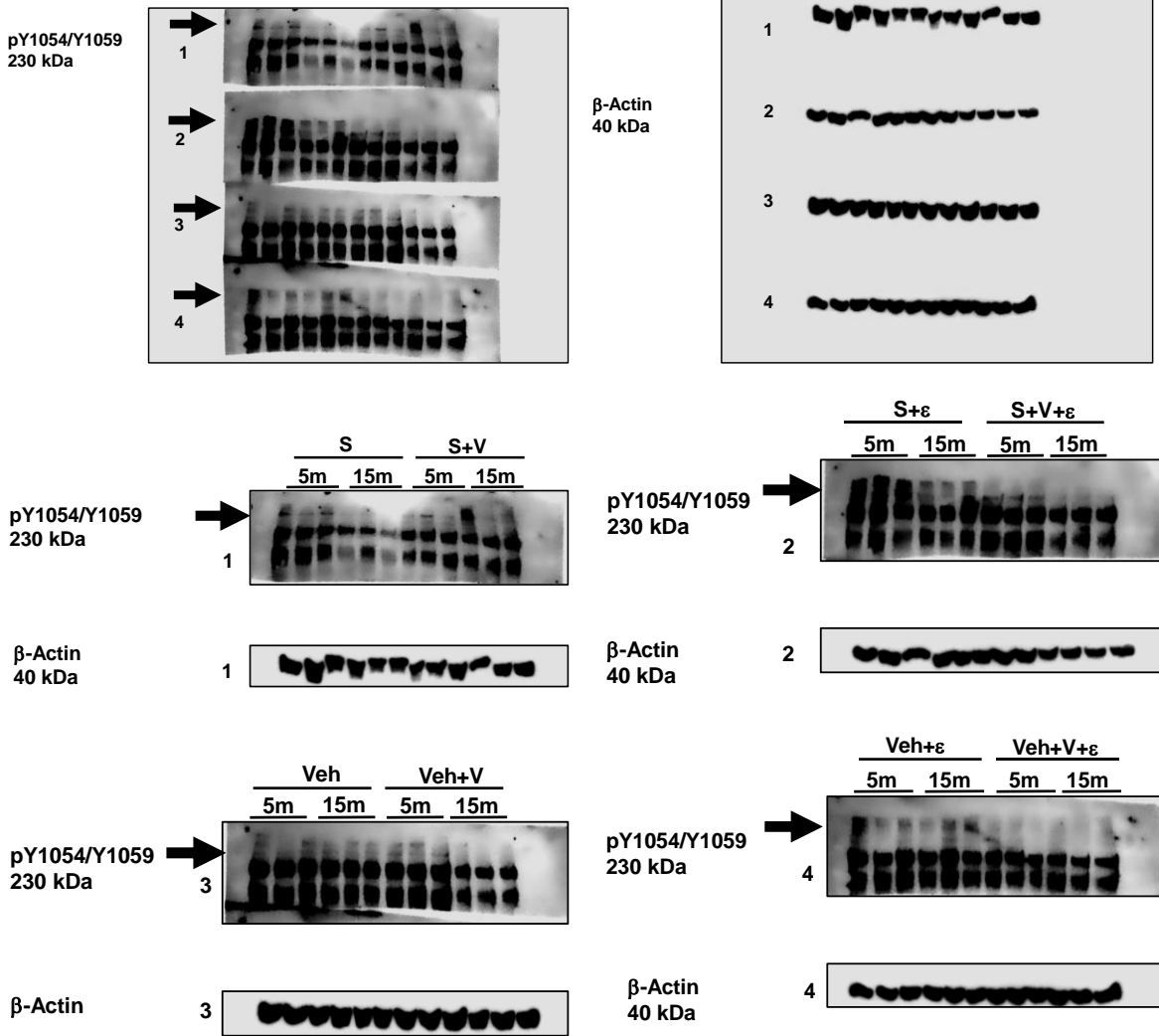
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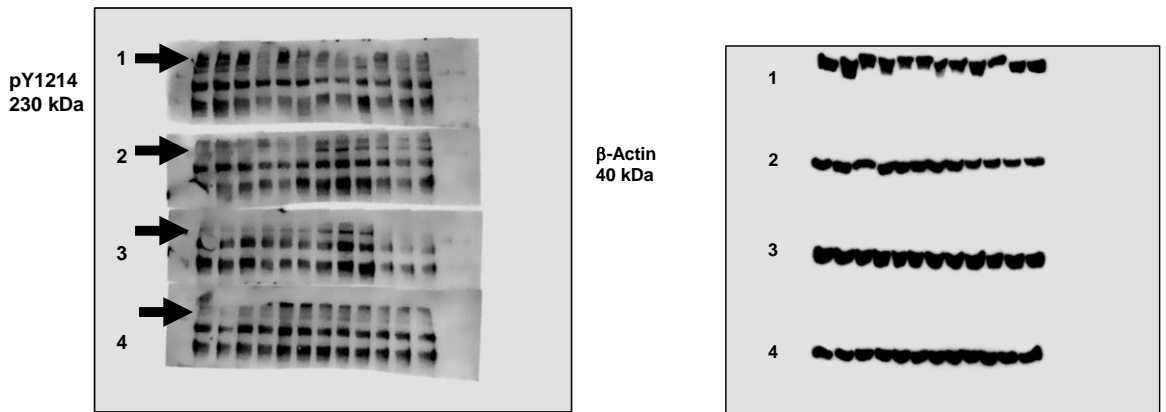


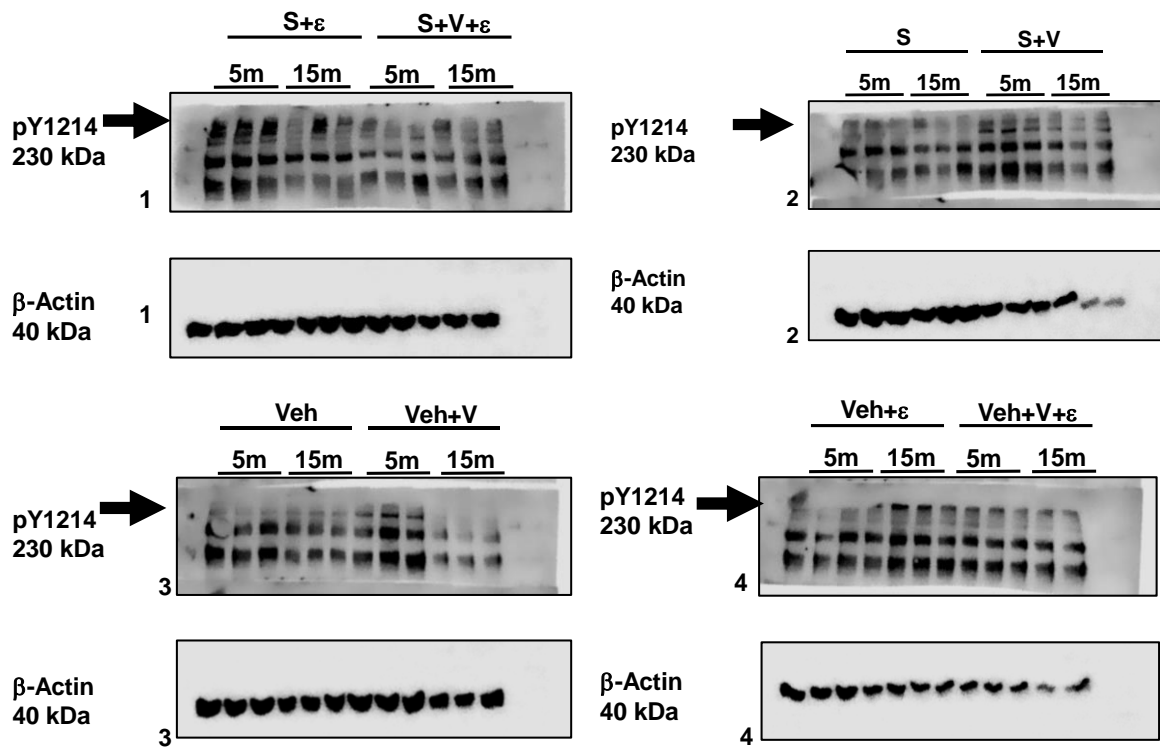


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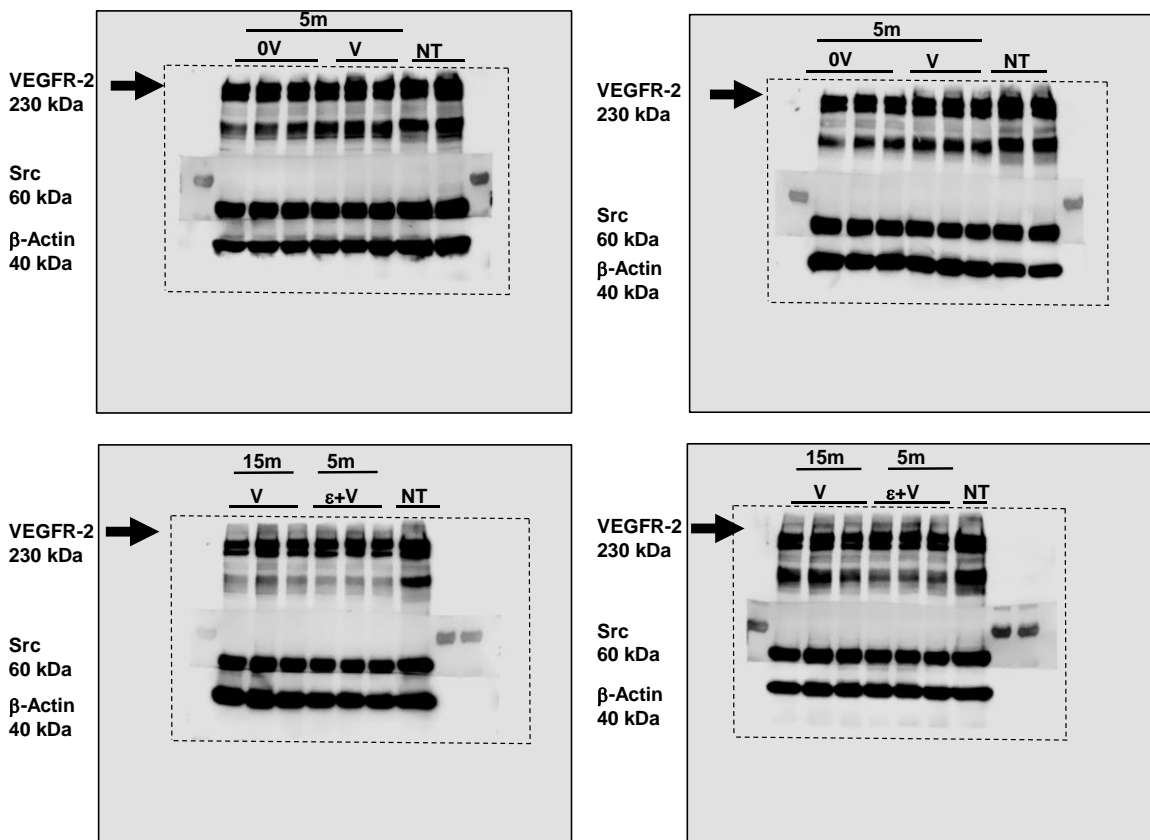


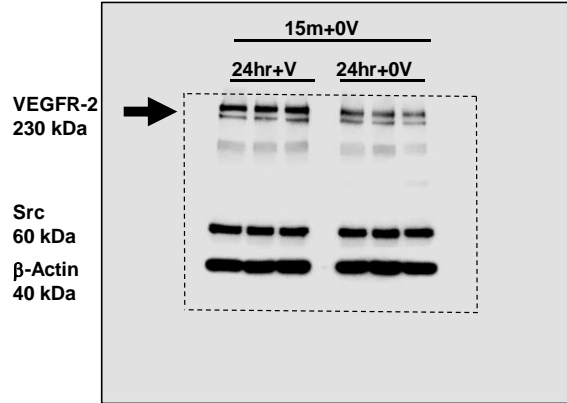
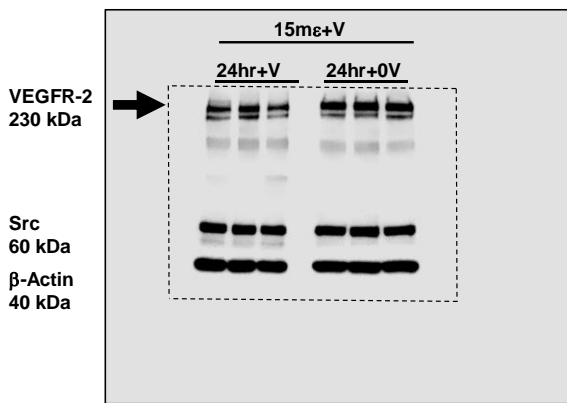
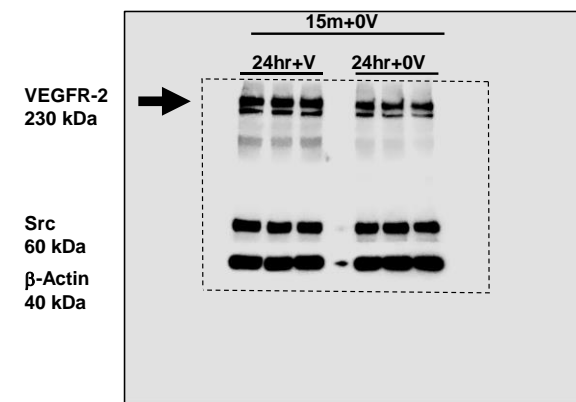
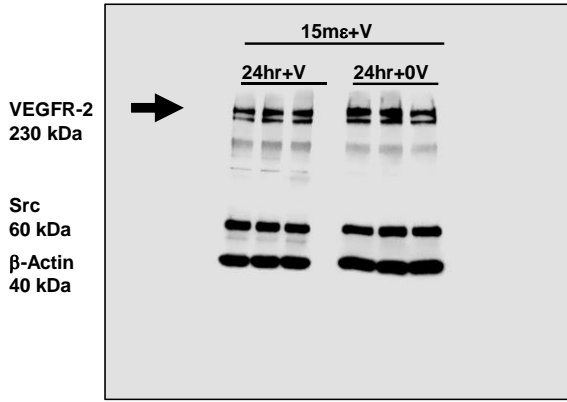
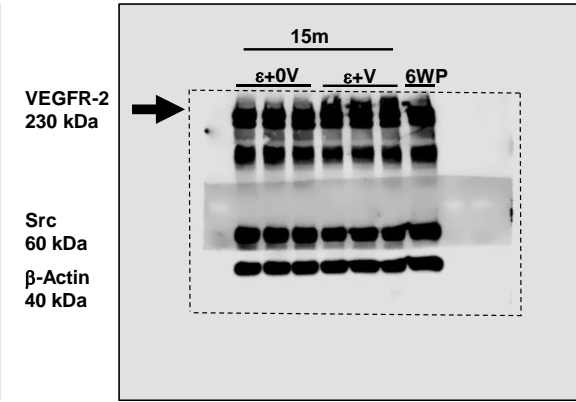
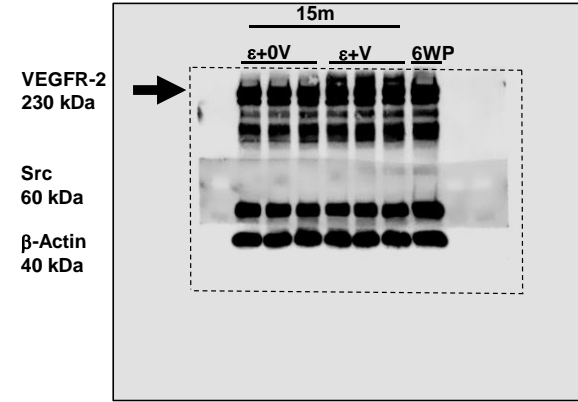
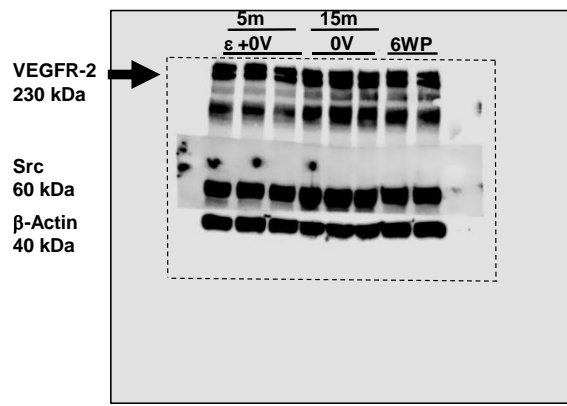
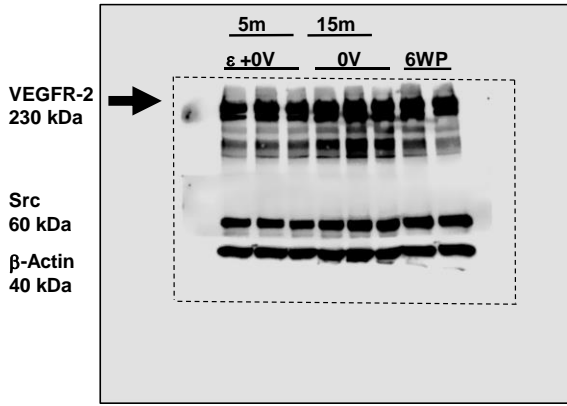
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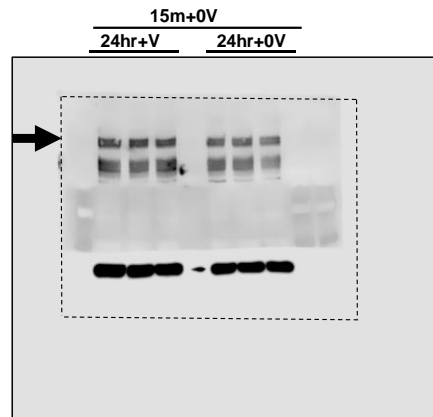
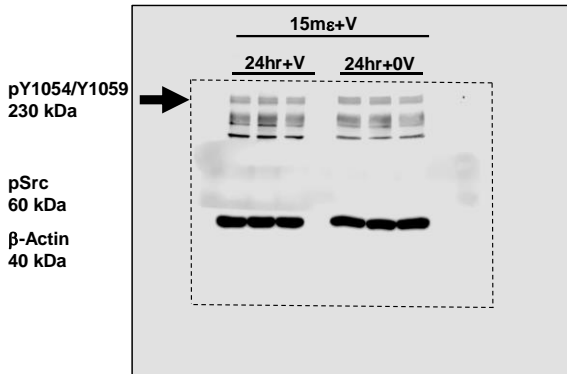
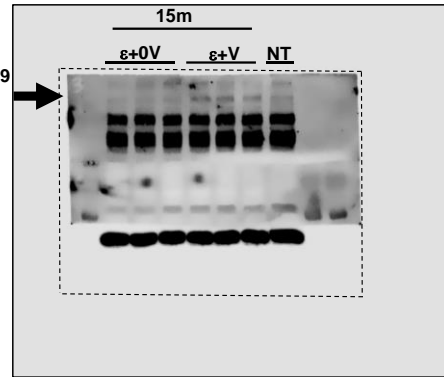
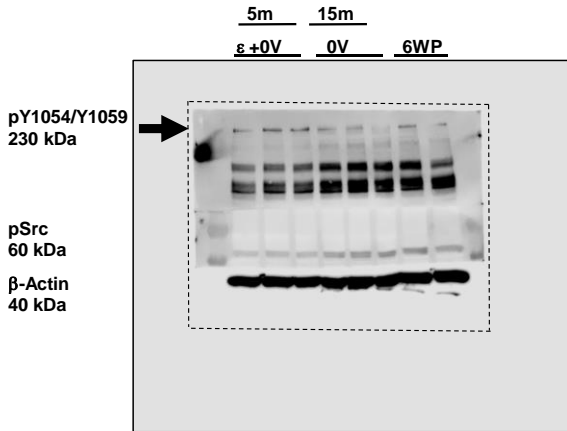
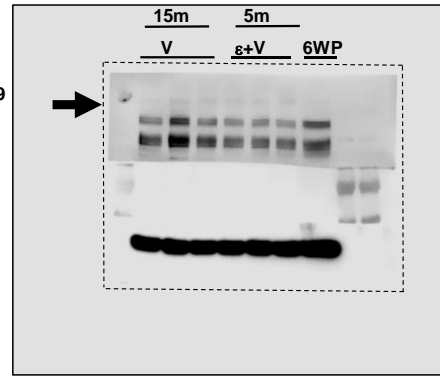
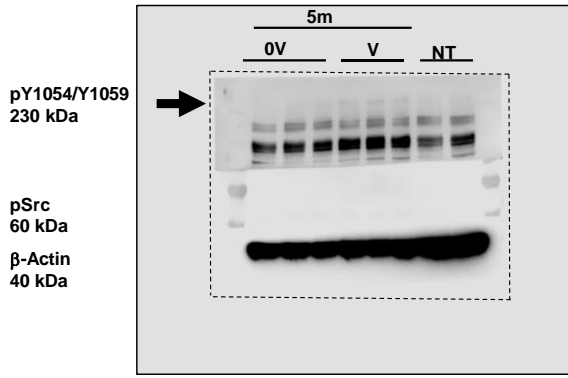


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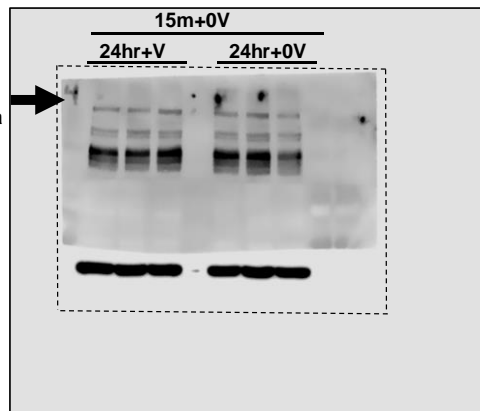
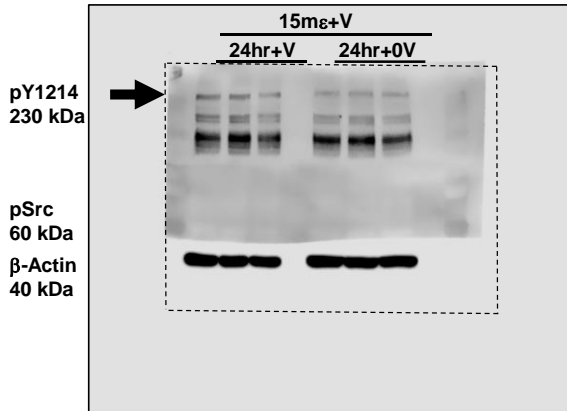
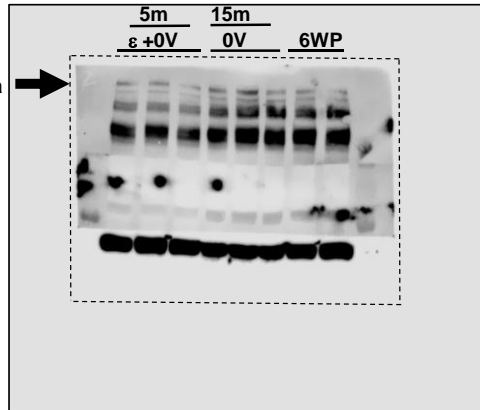
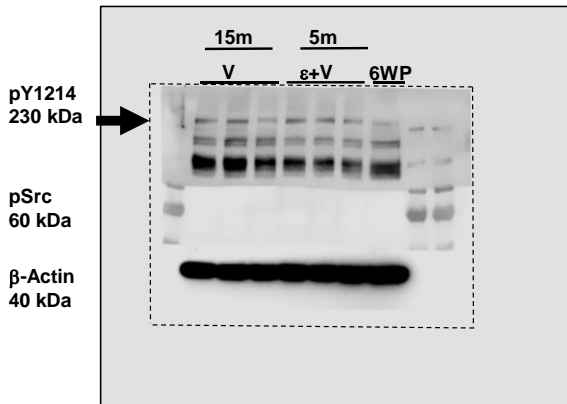
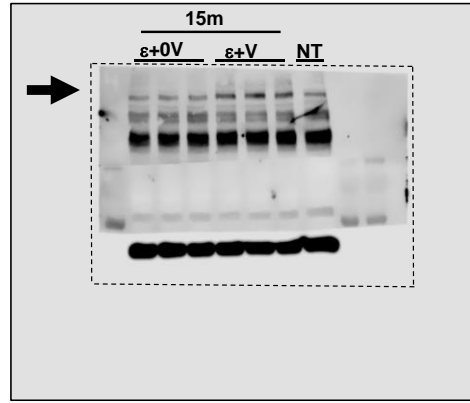
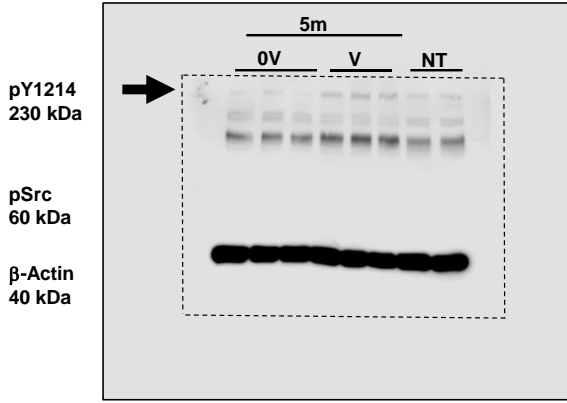




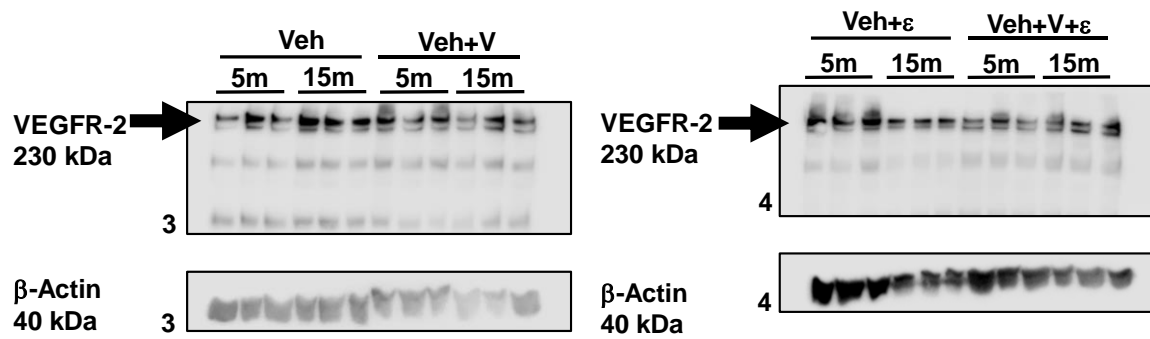
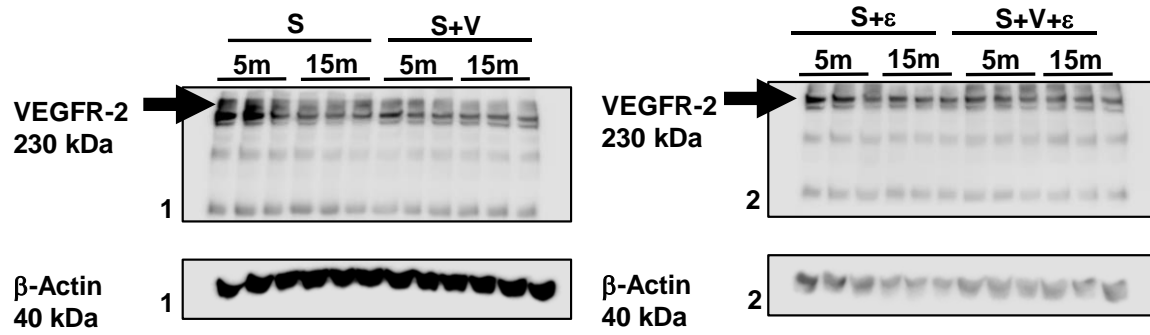
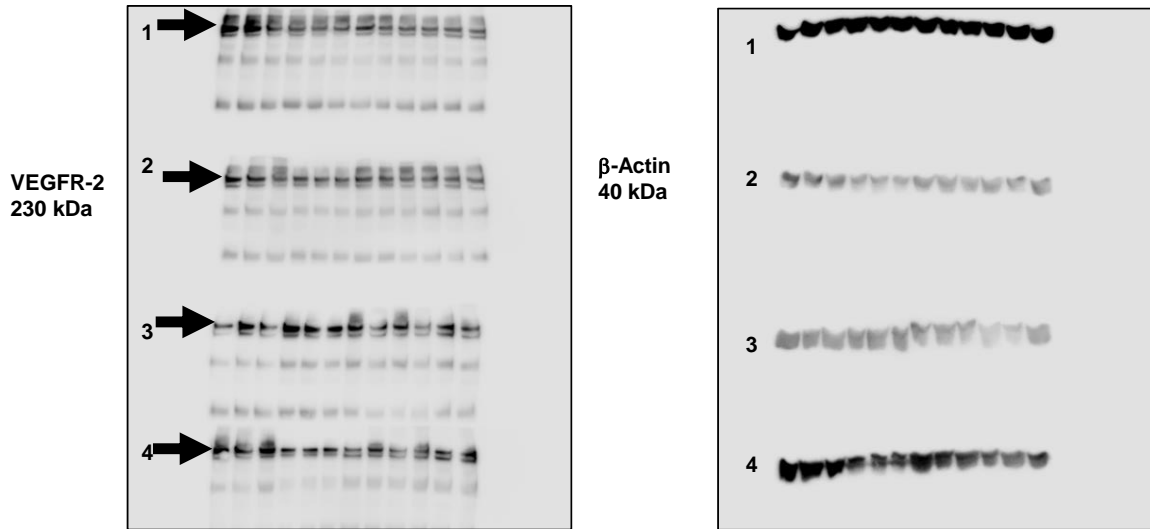
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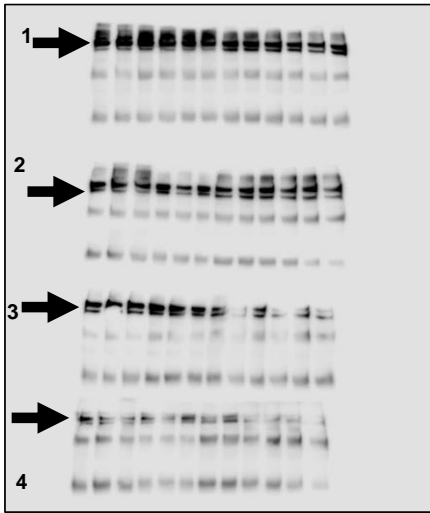
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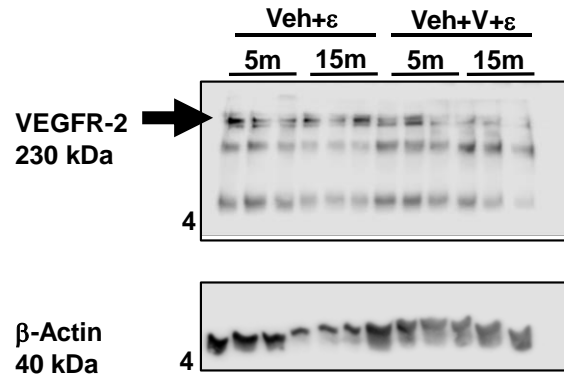
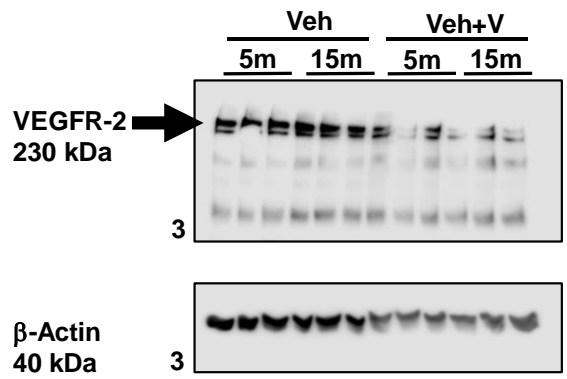
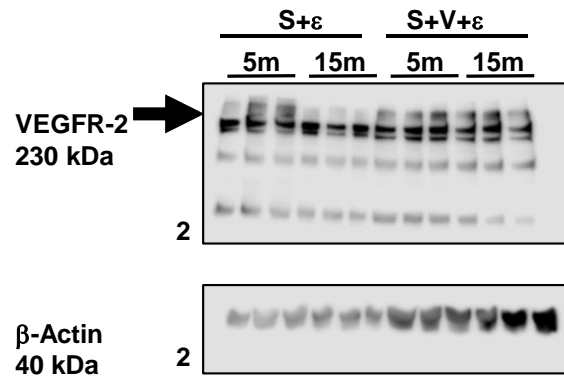
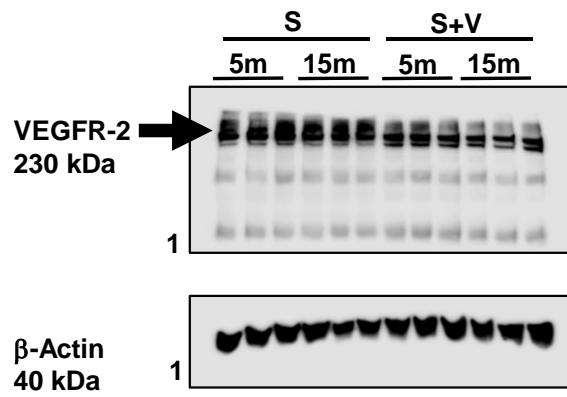
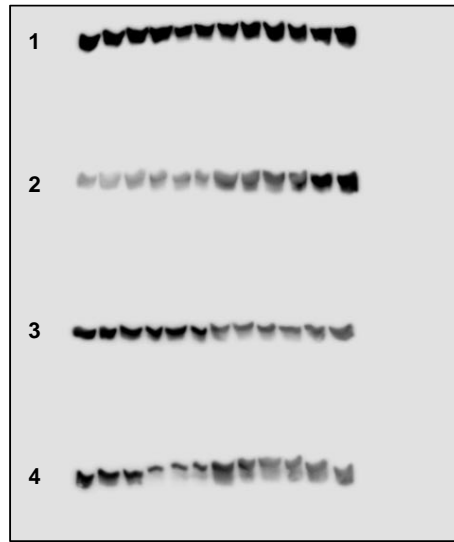
2j



VEGFR-2
230 kDa

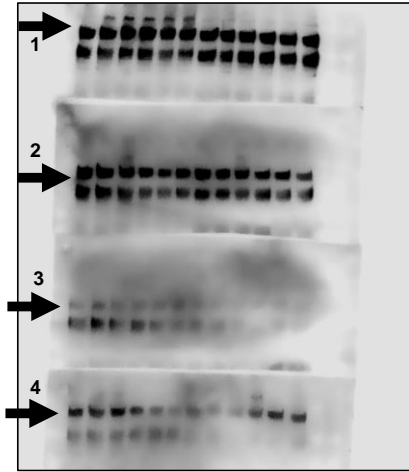


β -Actin
40 kDa

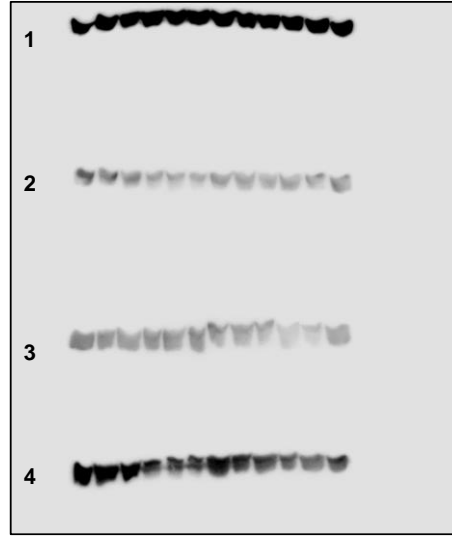


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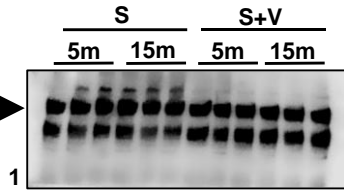
pY1054/Y1059
160 kDa



β -Actin
40 kDa



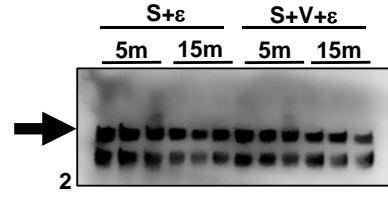
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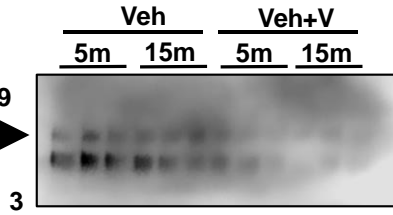
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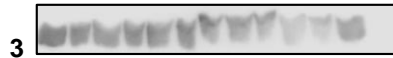
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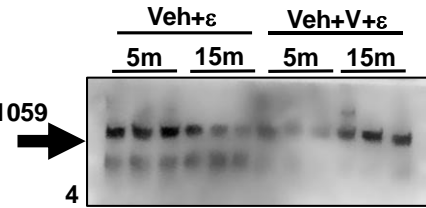
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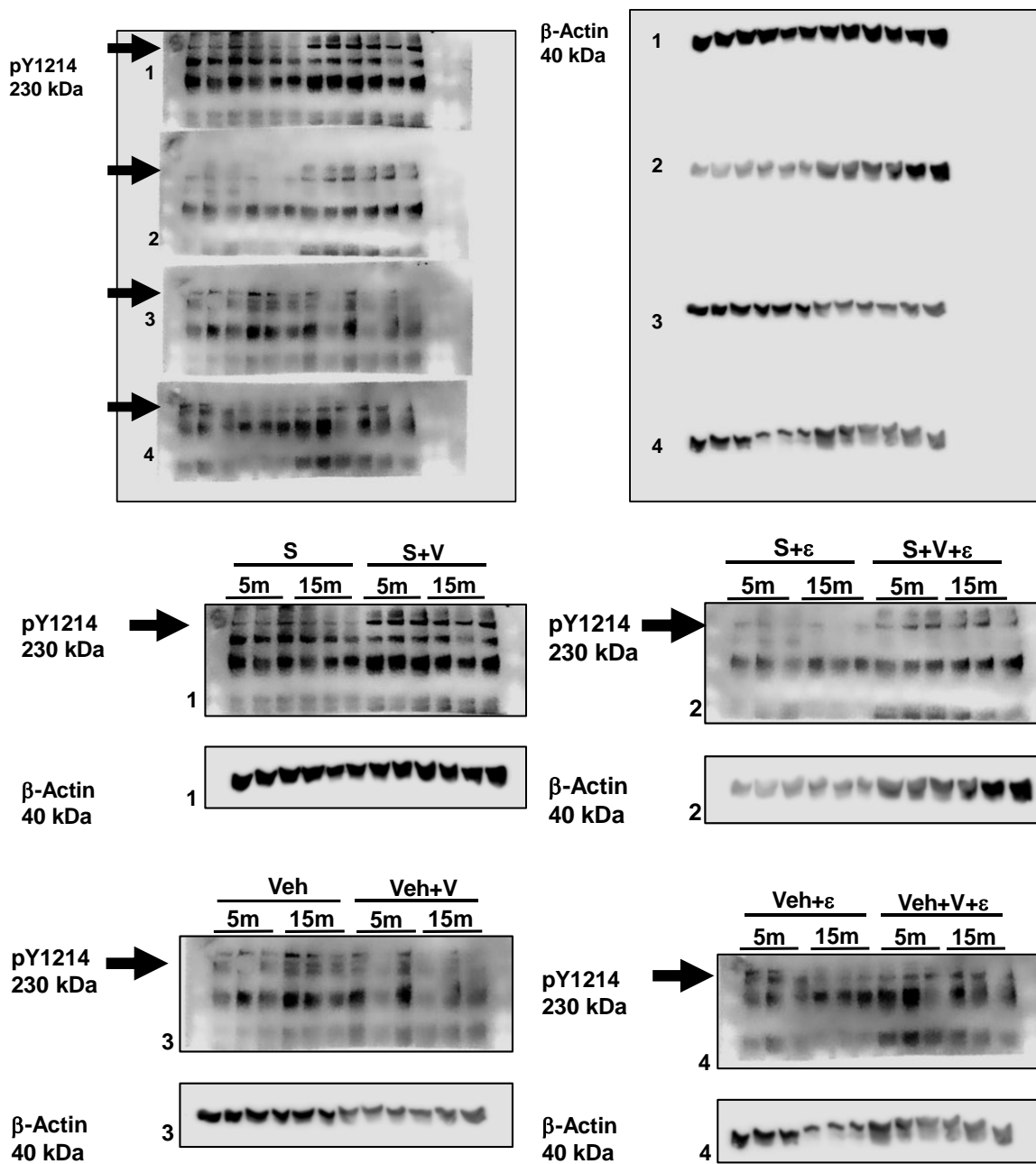


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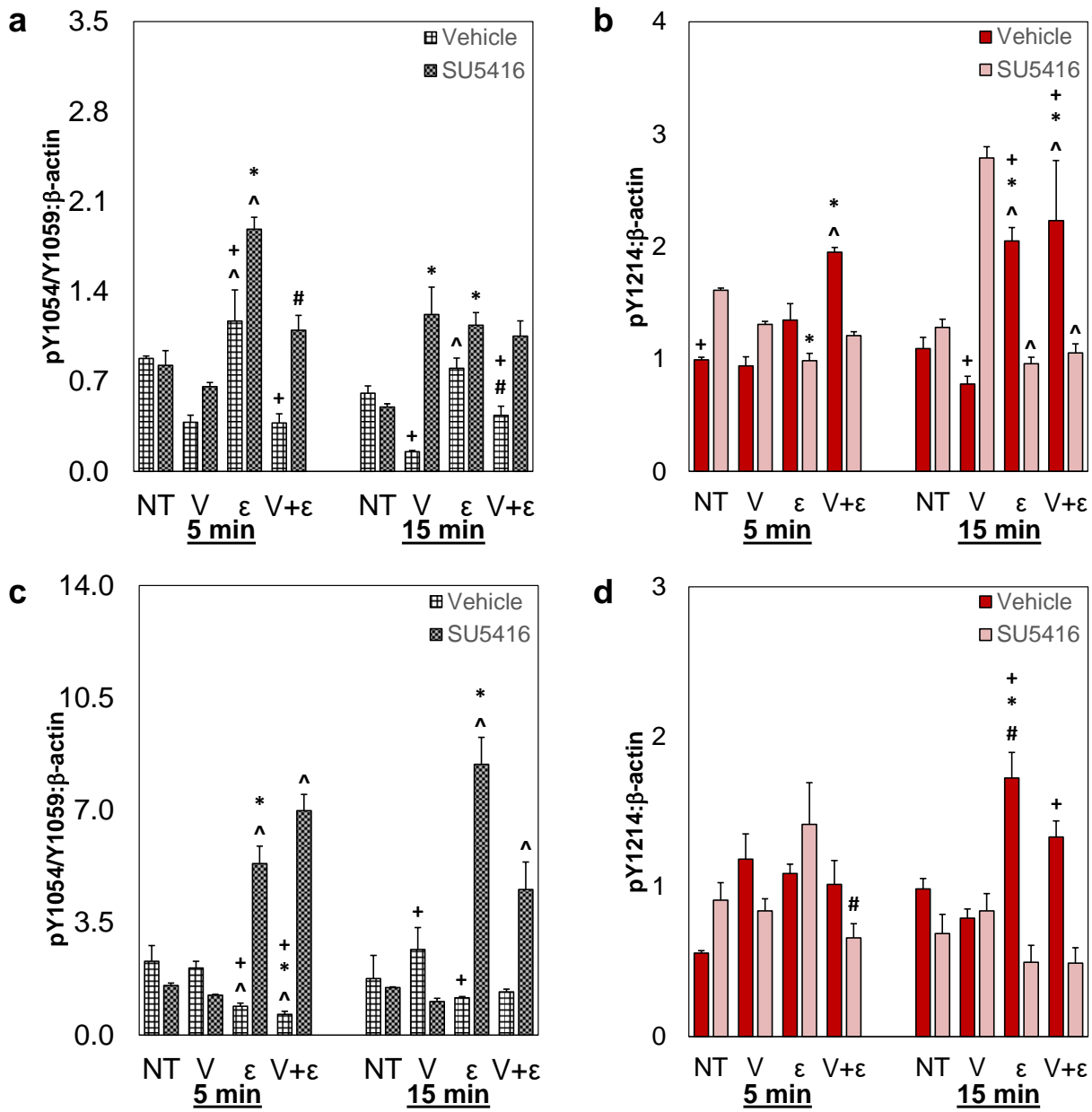


β -Actin
40 kDa





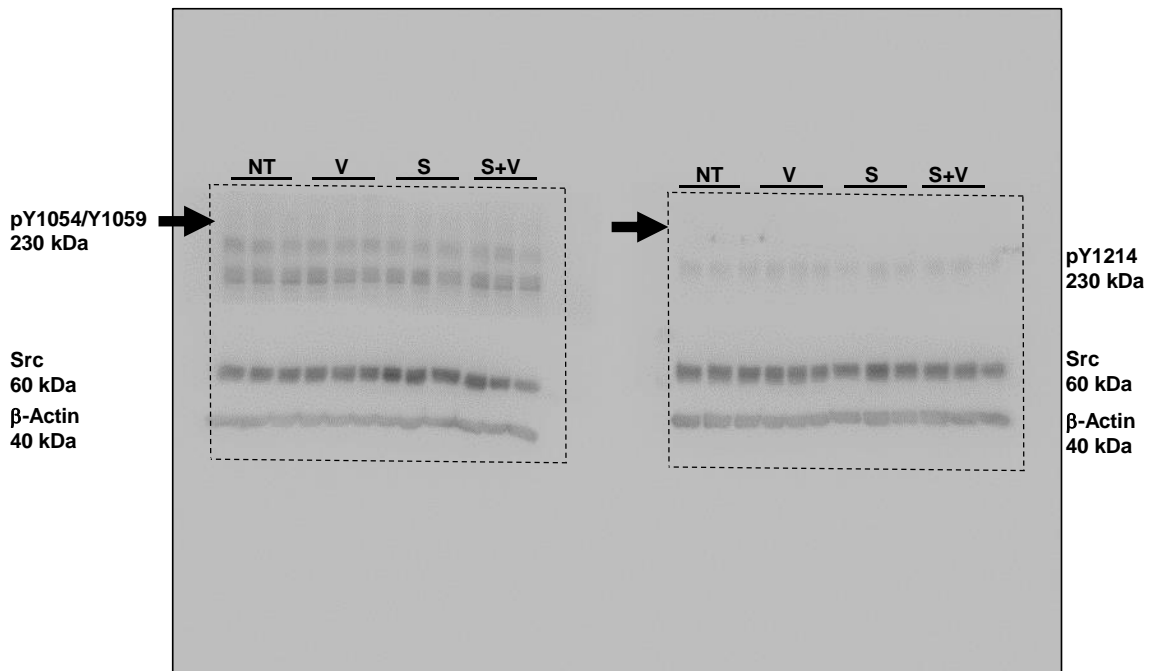
Supplemental Fig. 2 – Labeled Western Blots for Data in Fig. 2. This figure matches Fig. 2 in the main text. **(a)** HMECs were subjected to control (NT) conditions without strain and VEGF, VEGF only (25ng/mL, V), strain only (ϵ), or strain plus VEGF ($\epsilon + V$) for 5min or 15min. Western blots were performed to analyze total VEGFR-2, **(b)** pY1054/Y1059, or **(c)** pY1214 levels relative to the 0min, NT control groups. **(d)** HMECs were treated with combinations of strain, VEGF, SU5416, and a vehicle control then stained for total VEGFR-2, **(e)** pY1054/Y1059, and **(f)** pY1214. Some blots were treated with 24hr regular EGM-2 or 0ng/ml VEGF EGM-2 before final treatment to ensure this did not alter results. **(g-l)** HUVECs received the same treatments and stains. All blots were also stained for β -actin as a loading control. Arrows indicated VEGFR-2 bands quantified. Full images are numbered and correspond to labelled pictures.



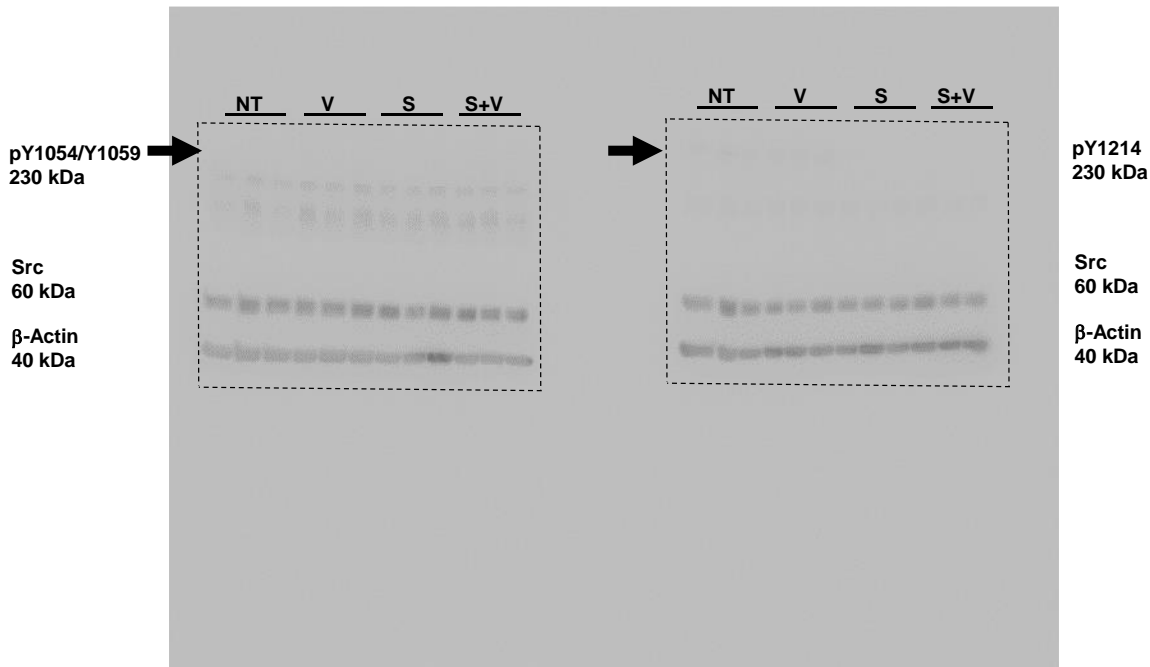
3

Supplemental Fig. 3 – Quantification of pY1054/Y1059 and pY1214 Contrasting Data in Fig. 2e,f,k,l. This data is normalized to β-actin as opposed to total VEGFR-2. **(a)** HMECs were treated with combinations of strain, VEGF (25ng/ml), SU5416 (3μM), and a vehicle control then stained for pY1054/Y1059 and **(b)** pY1214. **(c-d)** Quantification of Western blots for phosphorylated VEGFR-2 in HUVECs with same treatment groups outlined above. Western blot quantifications were normalized to β-actin. pY1054/Y1059 was quantified for the 160kDa cleavage product due to partial absence of the mature product in the blot for part c. For all studies, N = 3 with averages + SEM shown. + p < 0.05 versus SU5416 with same treatment, * p < 0.05 compared to NT at same time point, ^ p < 0.05 versus V at same time point, # p < 0.05 compared to ε at same time point. Groups b and c were compared with Kruskal-Wallis test, followed by post-hoc Dunn's tests. Groups a and d were compared with ANOVA, followed by post-hoc Tukey HSD tests.

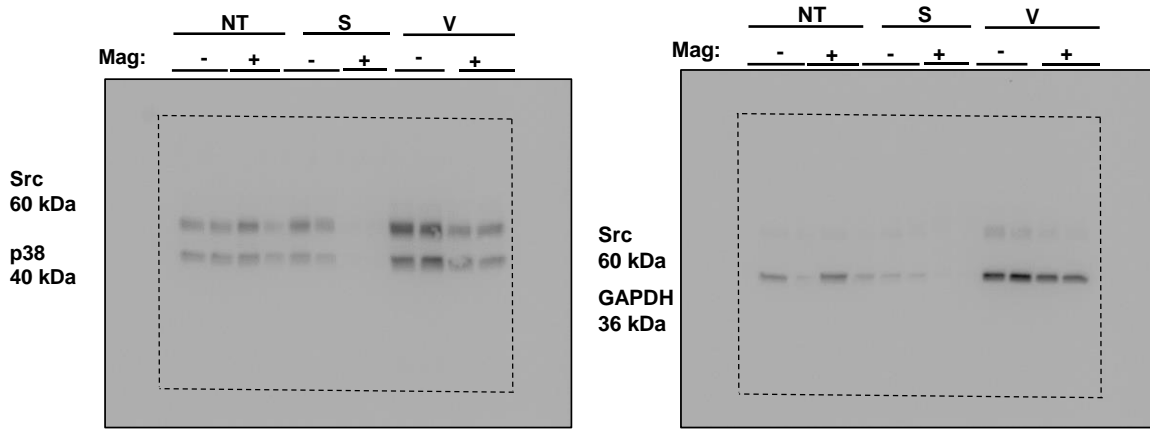
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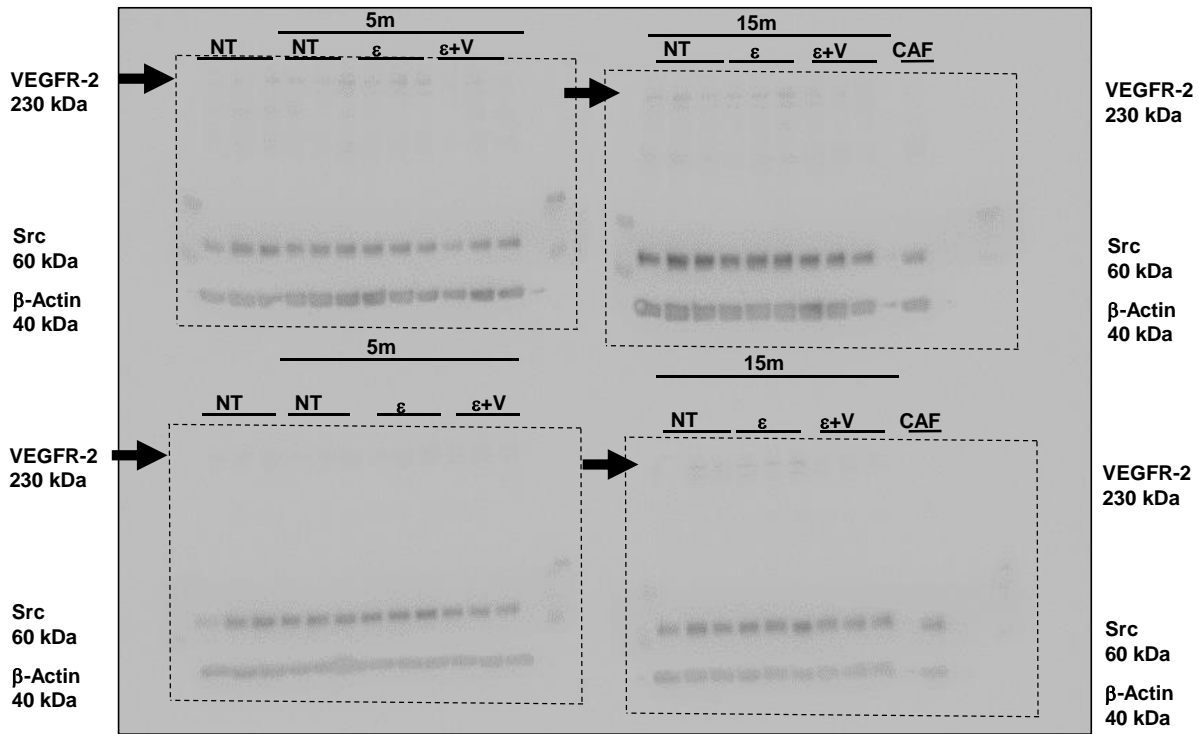
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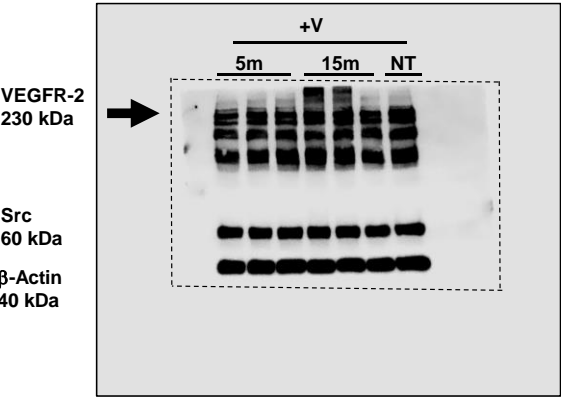
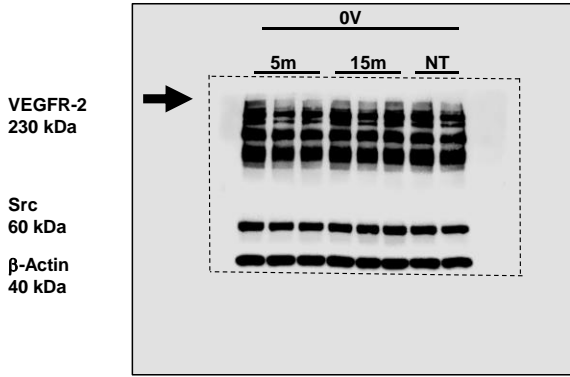
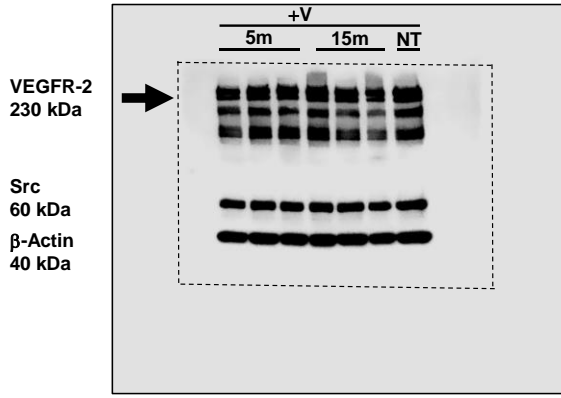
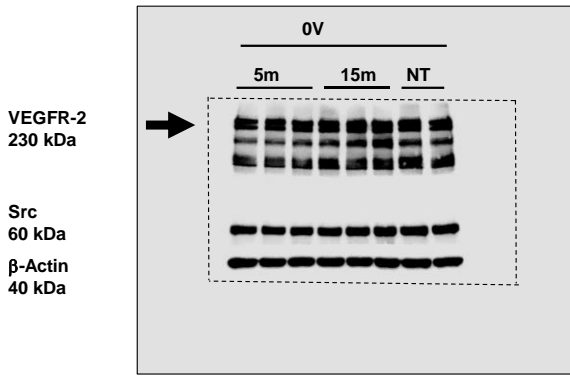


4c

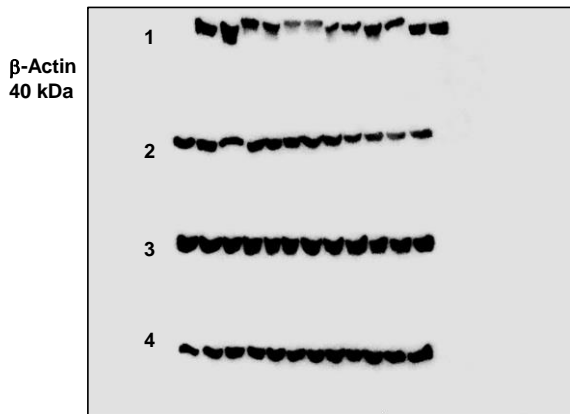
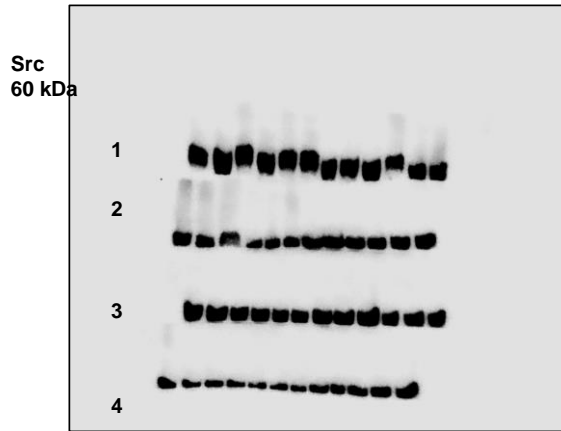
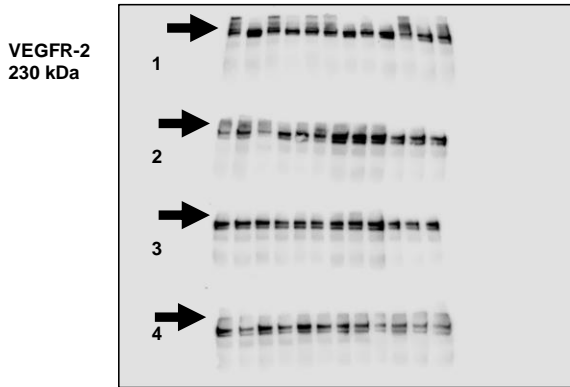


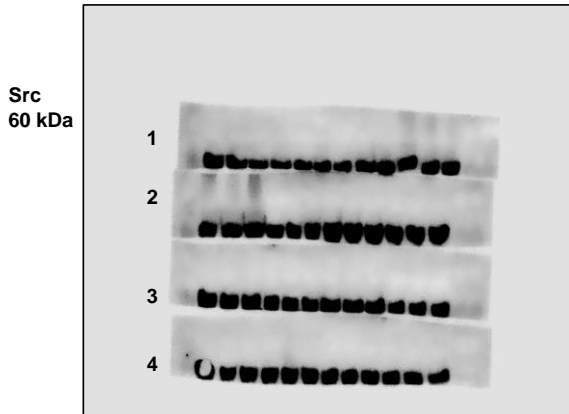
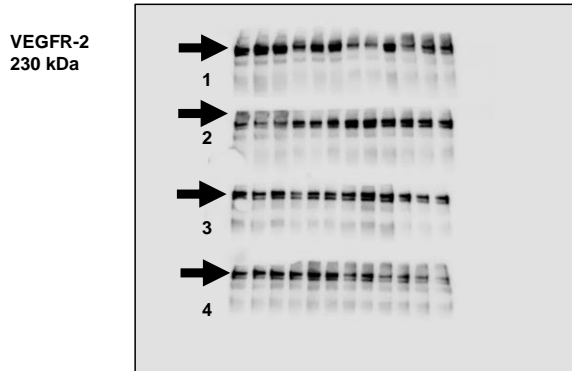
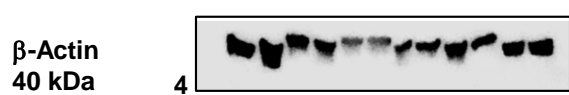
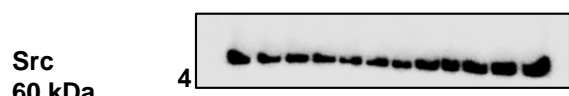
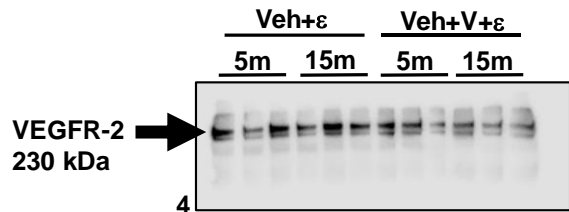
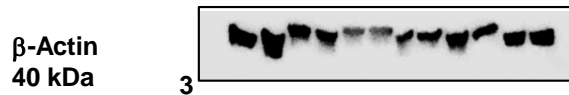
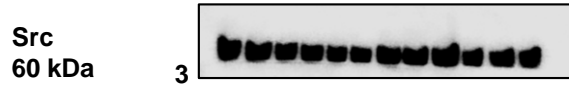
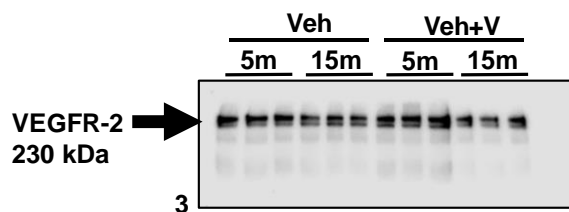
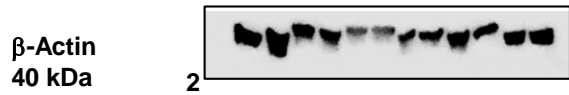
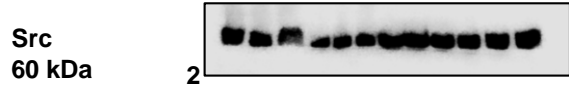
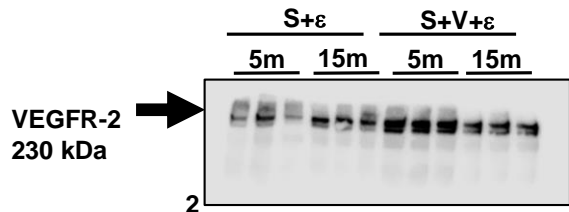
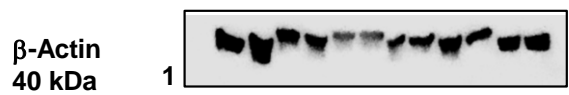
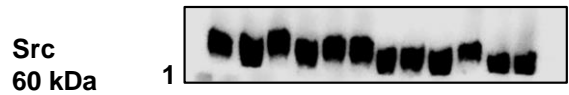
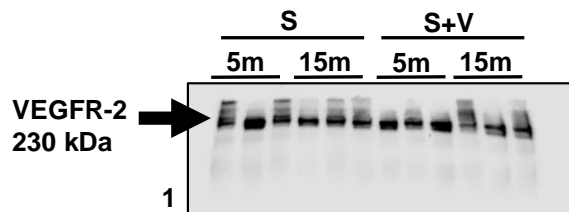
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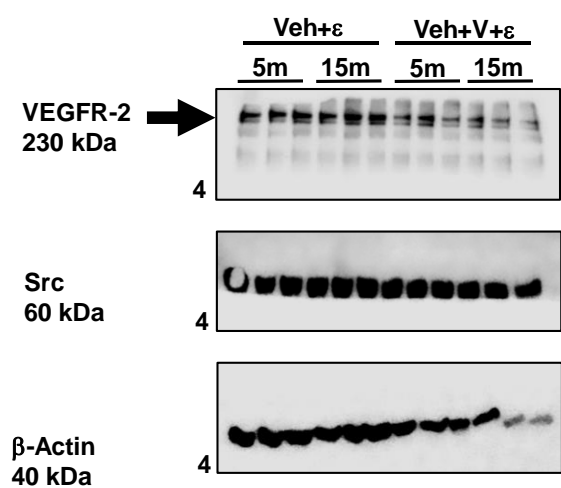
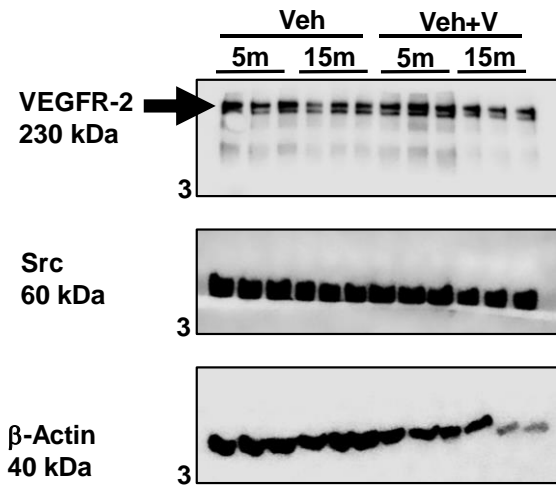
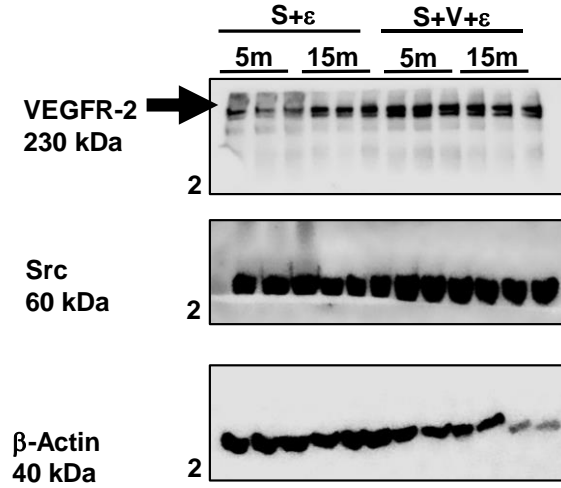
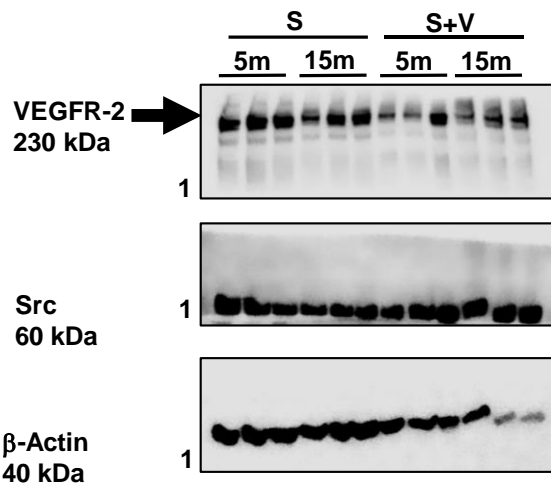
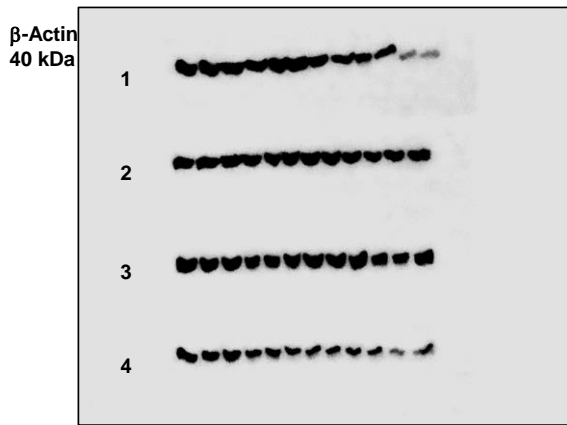




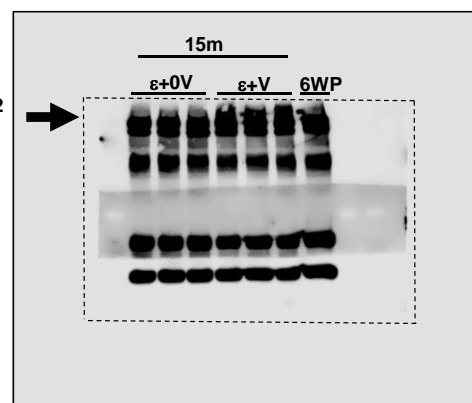
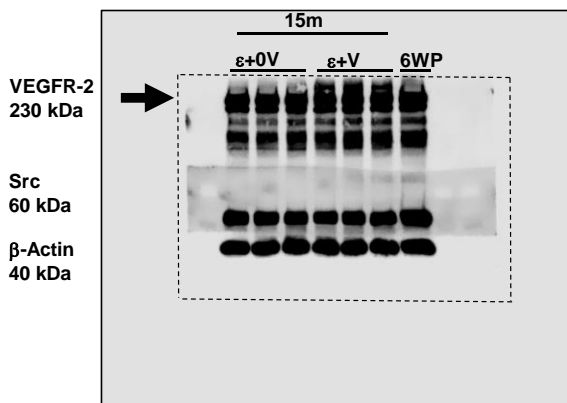
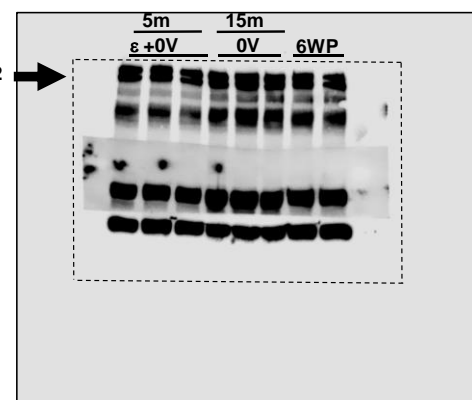
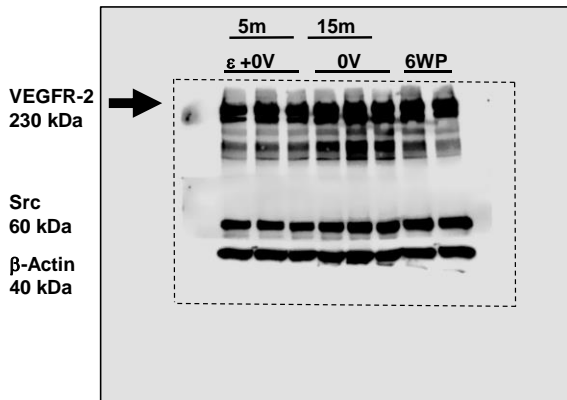
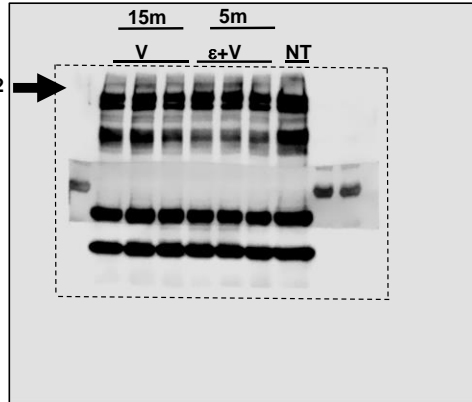
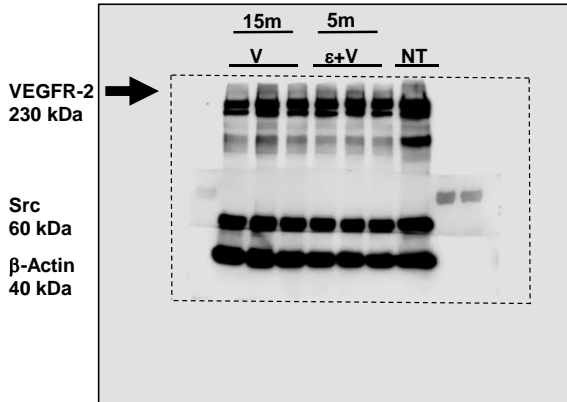
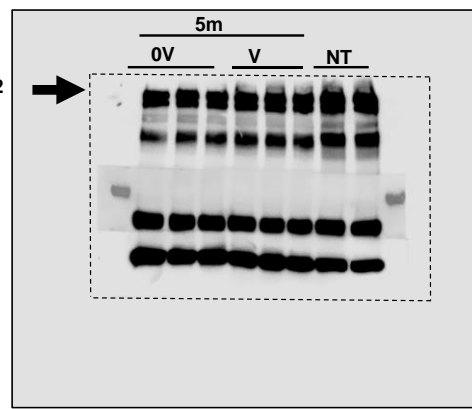
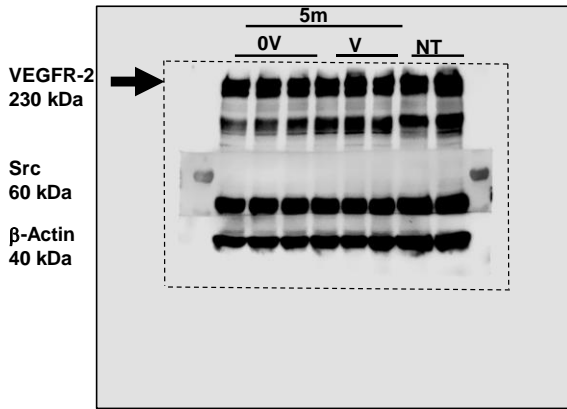
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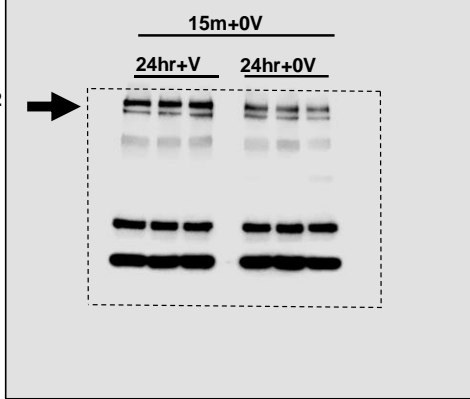
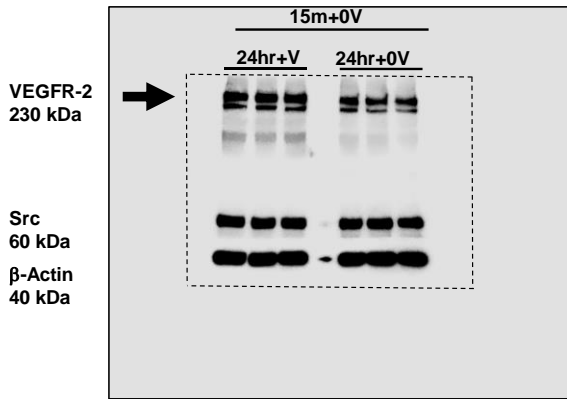
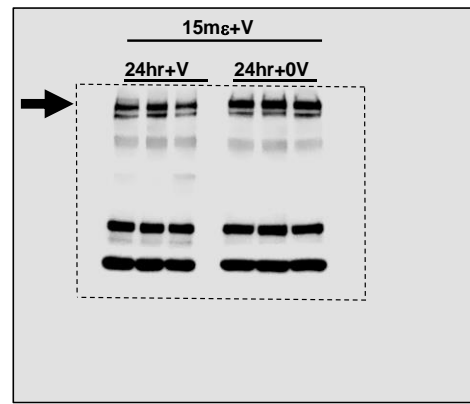
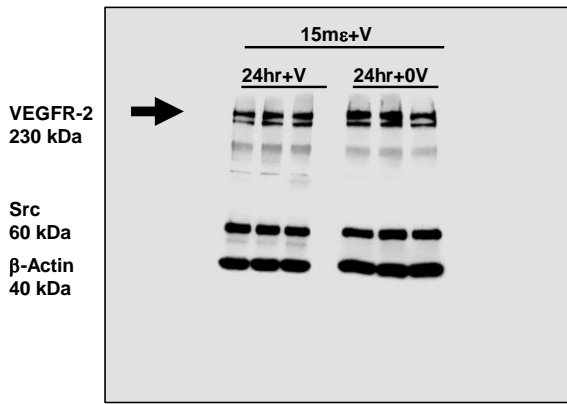




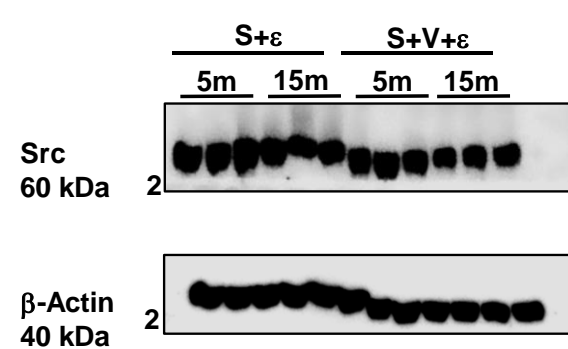
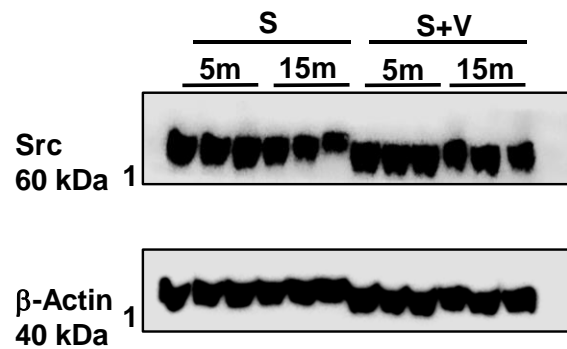
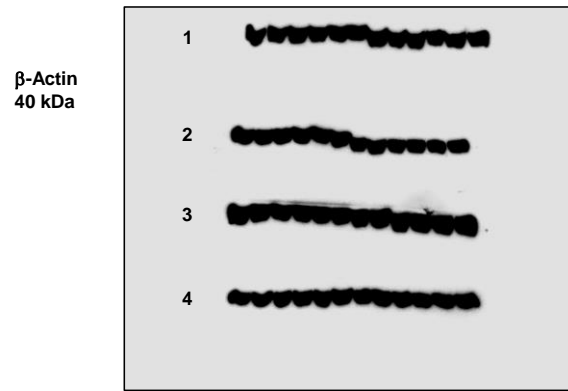
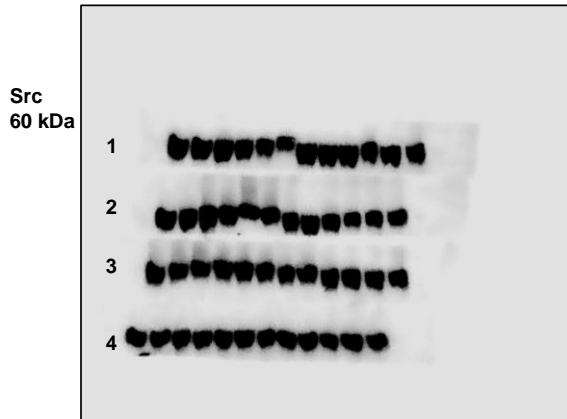


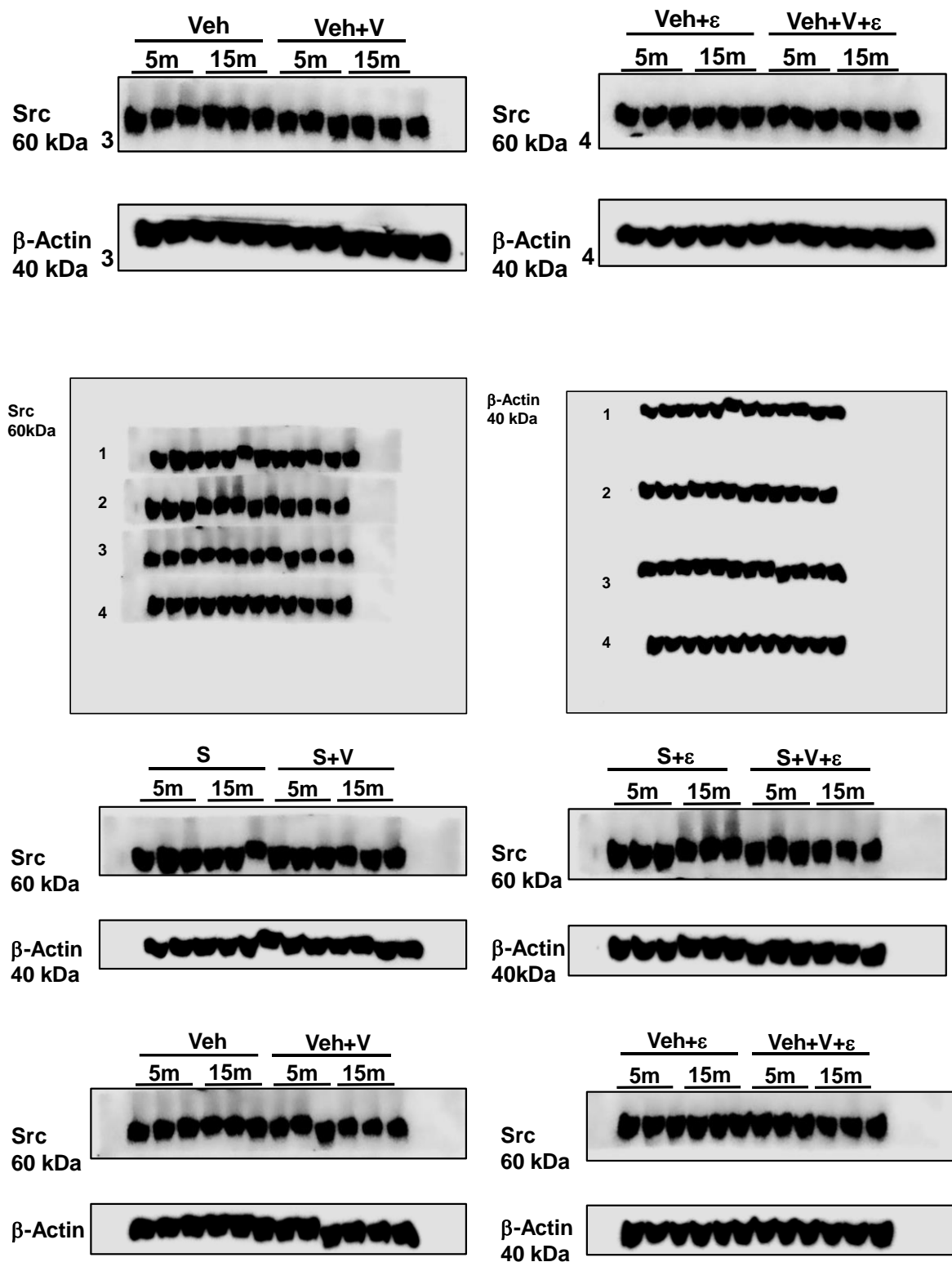
4f





4g





Supplemental Fig. 4 – Labeled Western Blots for Data in Fig. 3. (a) HMECs and **(b)** HUVECs were treated with control, no treatment (NT) media, VEGF (V), SU5416 (S), or both VEGF and SU5416 (V+S) for 72hr. Western blot analysis for total levels of Src was performed. **(c)** HUVECs in 3D fibrin gels with magnetic beads were treated with VEGF (V), DMSO as a vehicle control (Veh), or SU5416 (S) for 72hr. Some samples received no external magnetic stimulation while other samples were cultured above a rotating magnetic field. Src was analyzed via Western blot and normalized to

GAPDH as a loading control. **(d)** HMECs were subjected to control (NT) conditions without strain and VEGF, VEGF only (V), strain only (ϵ), or strain plus VEGF ($\epsilon+V$) for 5min or 15min before Src analysis via Western blot. **(e)** HMECs were treated with combinations of strain, VEGF, SU5416, and a vehicle control for 5min or 15min. Samples were analyzed through Western Blot and stained for total Src. **(f-g)** Quantification of Western Blots for total Src in HUVECs with same treatment groups outlined above. Western Blots were normalized to β -actin. Arrows indicate the VEGFR-2 bands that were quantified. Full images are numbered and correspond to labelled pictures.