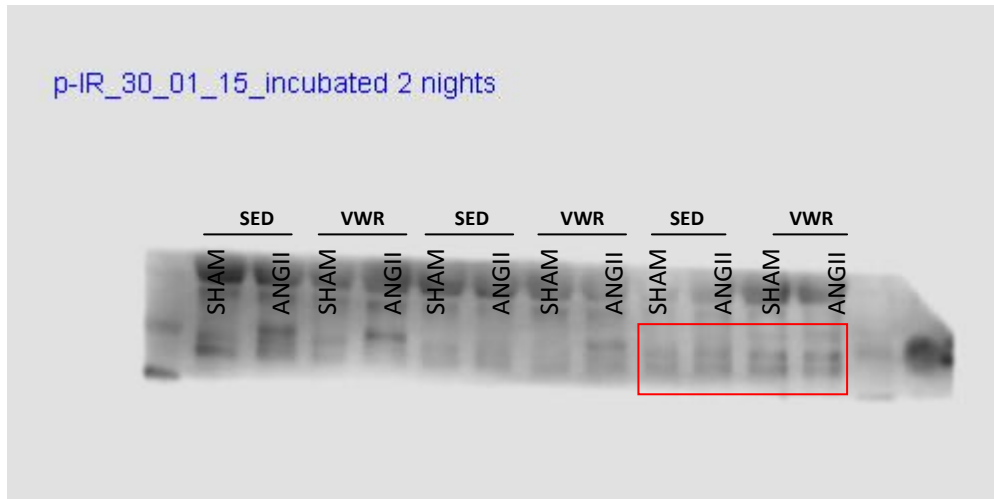
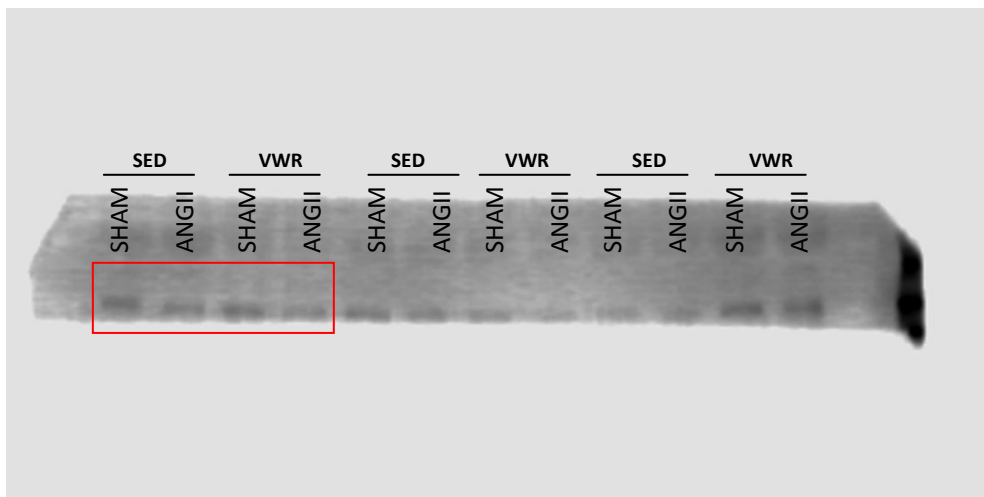


## Supplementary material

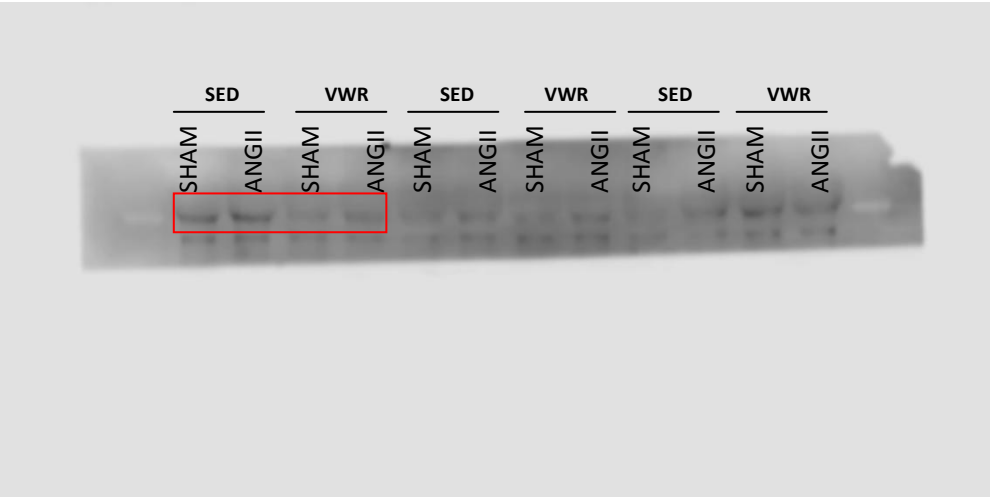
### 1. Original gels of expressions of insulin signaling protein in non-incubated soleus muscle represented in Table 2



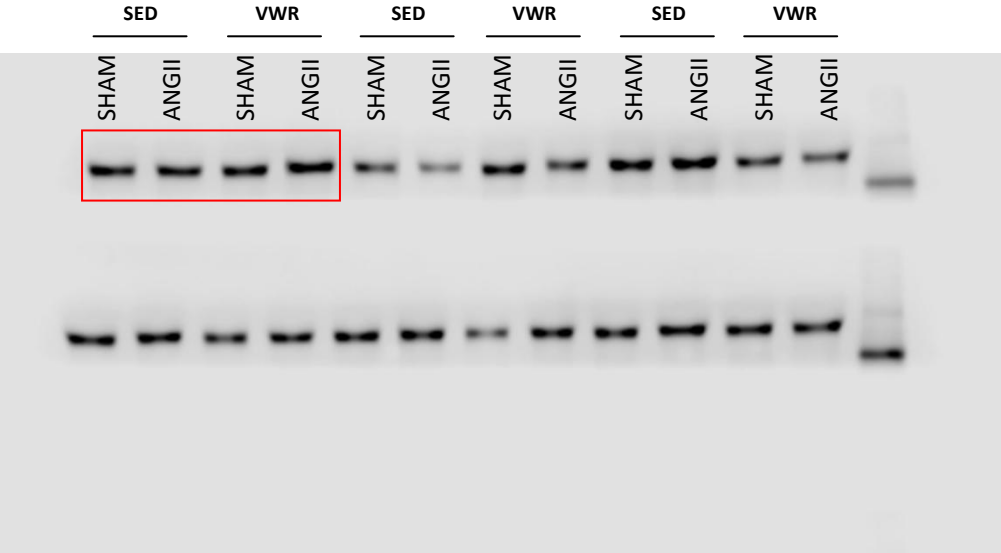
**Figure 1.1** Expressions of IR $\beta$ (Tyr<sup>1158</sup>/Tyr<sup>1162</sup>/Tyr<sup>1163</sup>) phosphorylation (p-IR $\beta$ ) in non-incubated soleus muscle



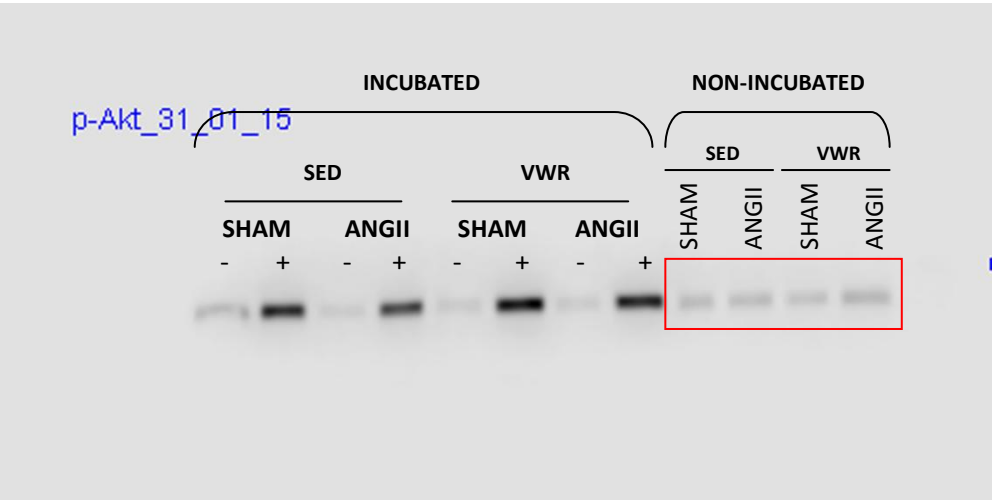
**Figure 1.2** Expressions of IR $\beta$  in non-incubated soleus muscle



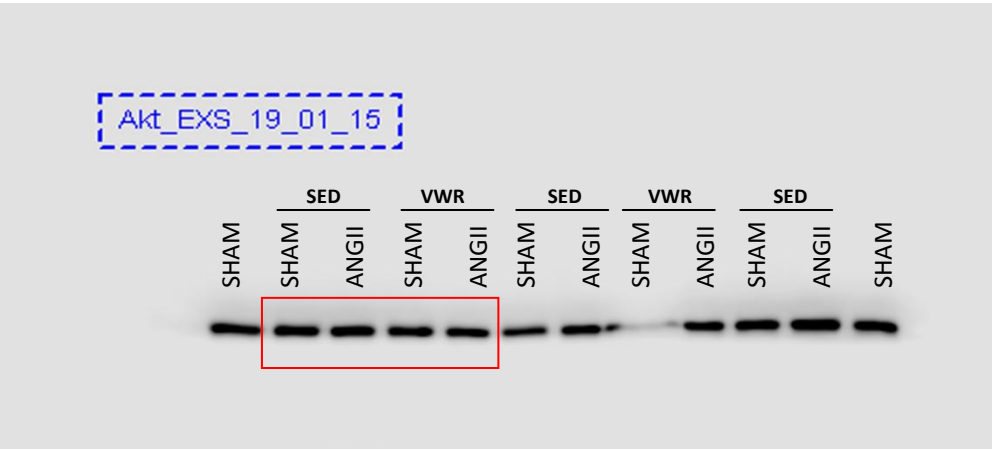
**Figure 1.3 Expressions of IRS-1 Ser<sup>307</sup> phosphorylation (p-IRS1 Ser<sup>307</sup>) in non-incubated soleus muscle**



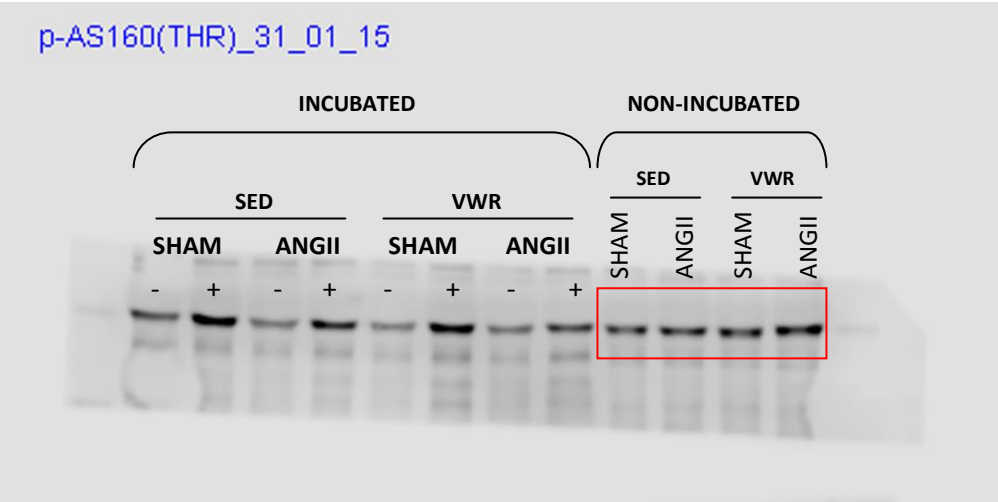
**Figure 1.4 Expressions of IRS-1 in non-incubated soleus muscle**



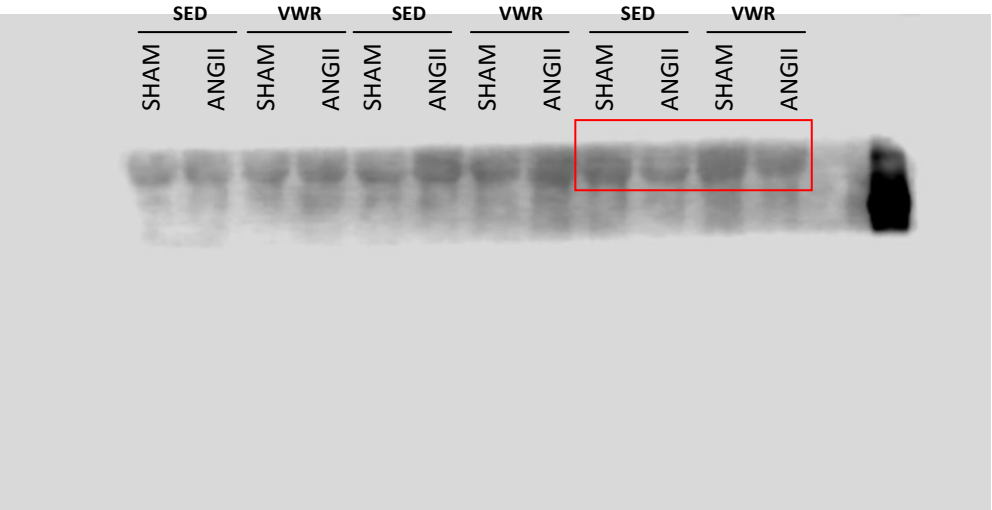
**Figure 1.5 Expressions of Akt Ser<sup>473</sup> phosphorylation (p-Akt Ser<sup>473</sup>) in non-incubated soleus muscle**



**Figure 1.6 Expressions of Akt in non-incubated soleus muscle**

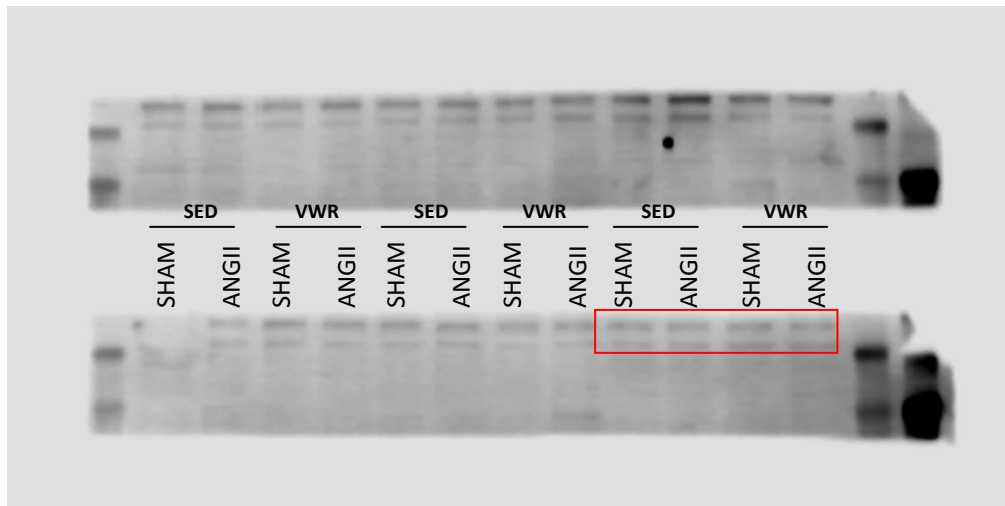


**Figure 1.7 Expressions of AS160 Thr<sup>642</sup> phosphorylation (p-AS160 Thr<sup>642</sup>) in non-incubated soleus muscle**

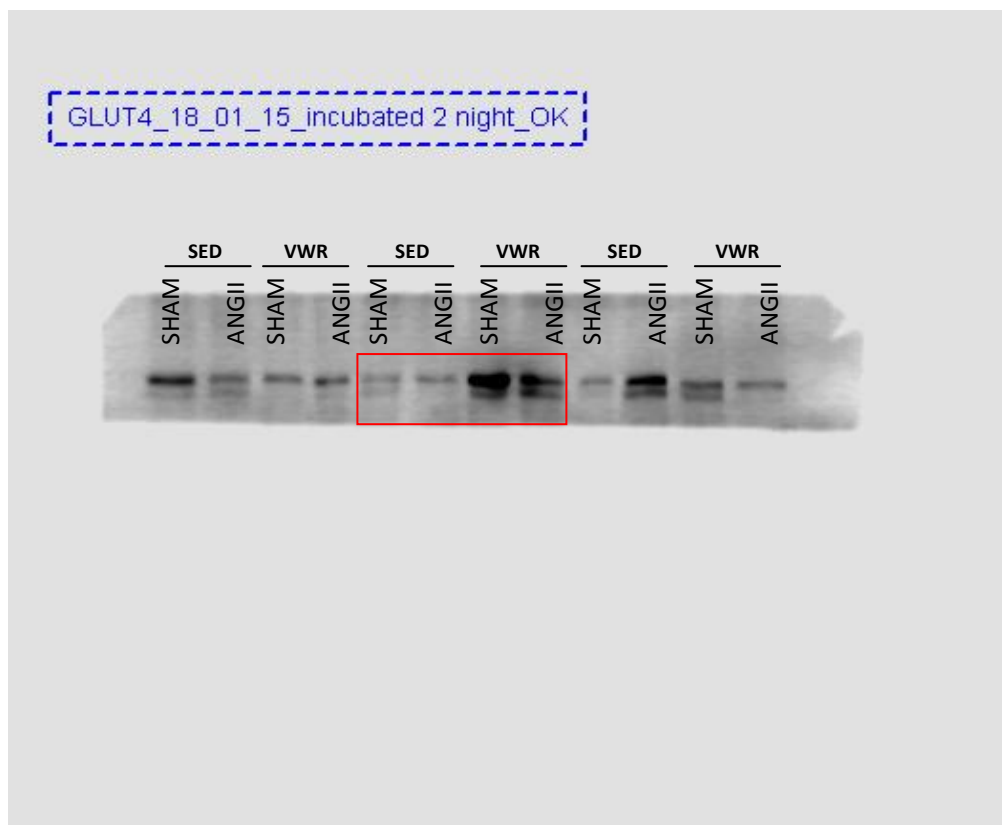


**Figure 1.8 Expressions of AS160 in non-incubated soleus muscle**

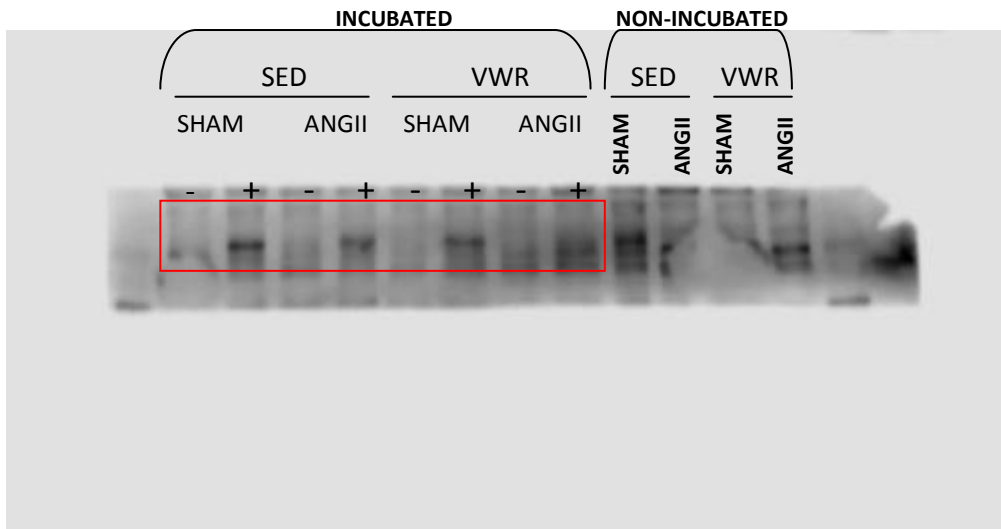
**2. Original gels of expressions of GLUT-1 and GULT-4 protein in non-incubated soleus muscle represented in Figure 4A and insulin signaling protein in incubated soleus muscle represented in Figure 4B**



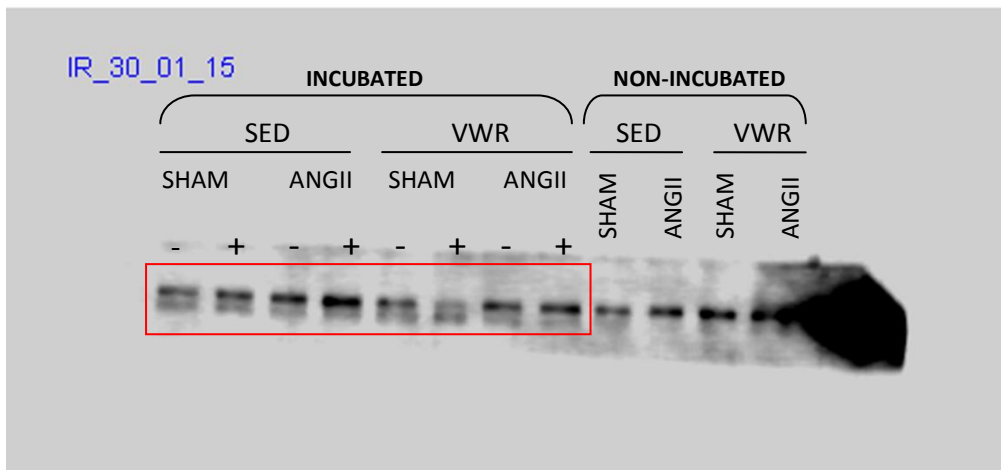
**Figure 2.1 Expressions of GLUT-1 in non-incubated soleus muscle**



**Figure 2.2 Expressions of GLUT-4 in non-incubated soleus muscle**



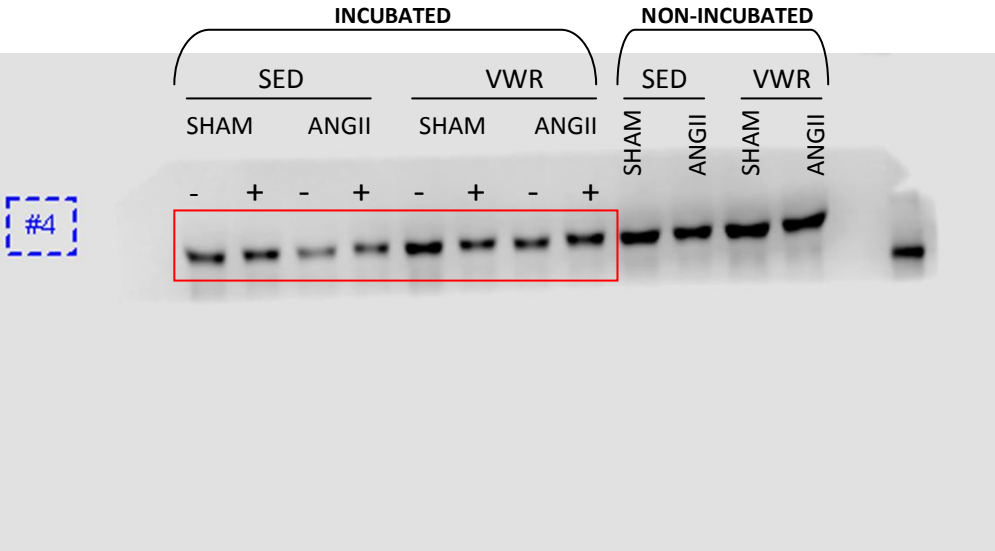
**Figure 2.3 Expressions of IR $\beta$ (Tyr<sup>1158</sup>/Tyr<sup>1162</sup>/Tyr<sup>1163</sup>) phosphorylation (p-IR $\beta$ ) in incubated soleus muscle**



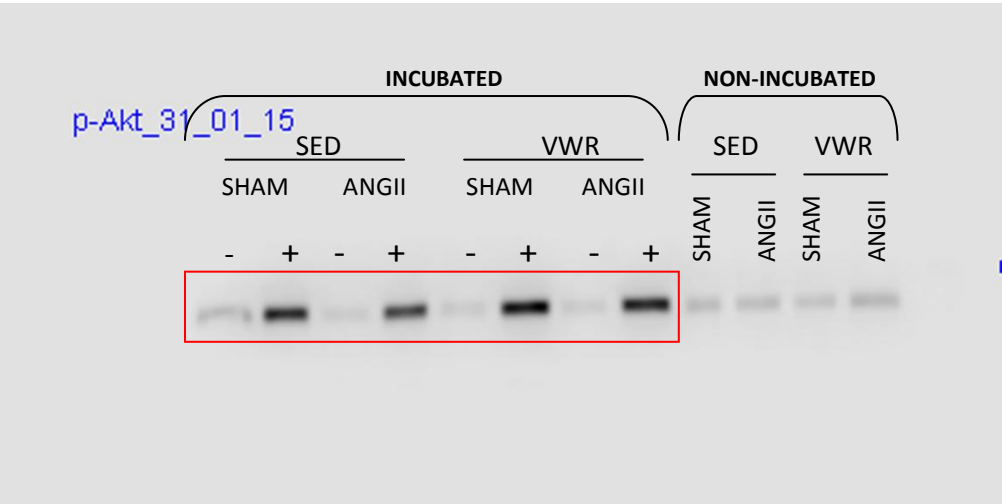
**Figure 2.4 Expressions of IR $\beta$  in incubated soleus muscle**



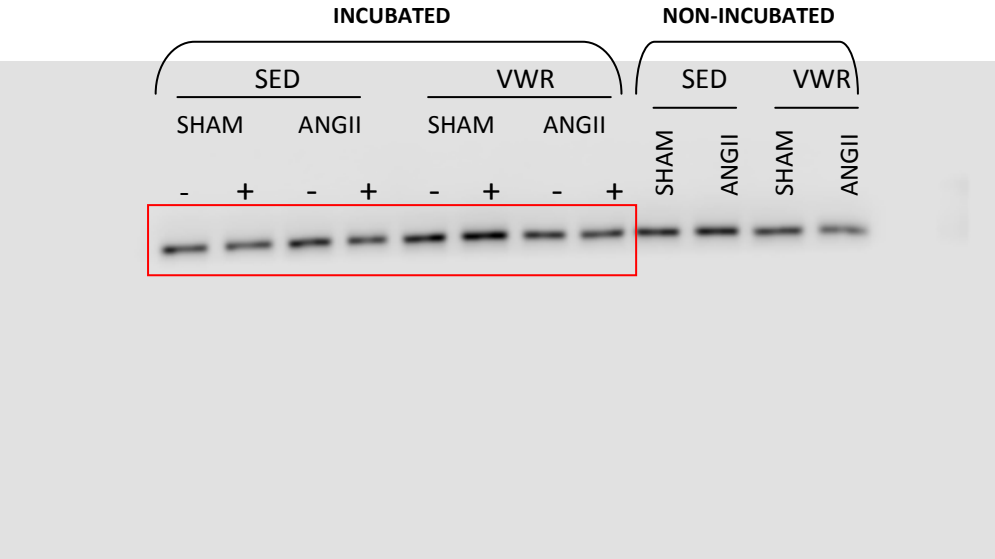
**Figure 2.5 Expressions of IRS-1 Ser<sup>307</sup> phosphorylation (p-IRS1 Ser<sup>307</sup>) in incubated soleus muscle**



**Figure 2.6 Expressions of IRS-1 in incubated soleus muscle**

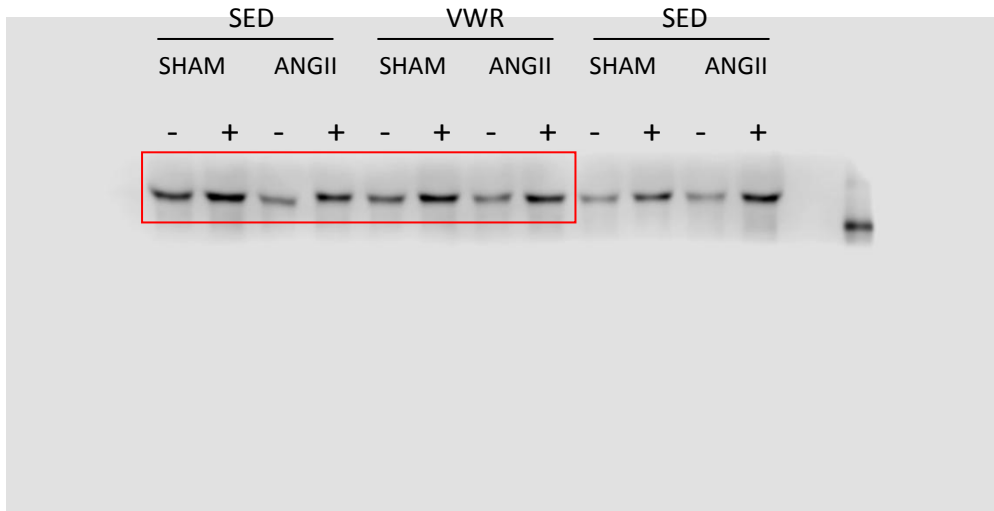


**Figure 2.7** Expressions of Akt Ser<sup>473</sup> phosphorylation (p-Akt Ser<sup>473</sup>) in incubated soleus muscle

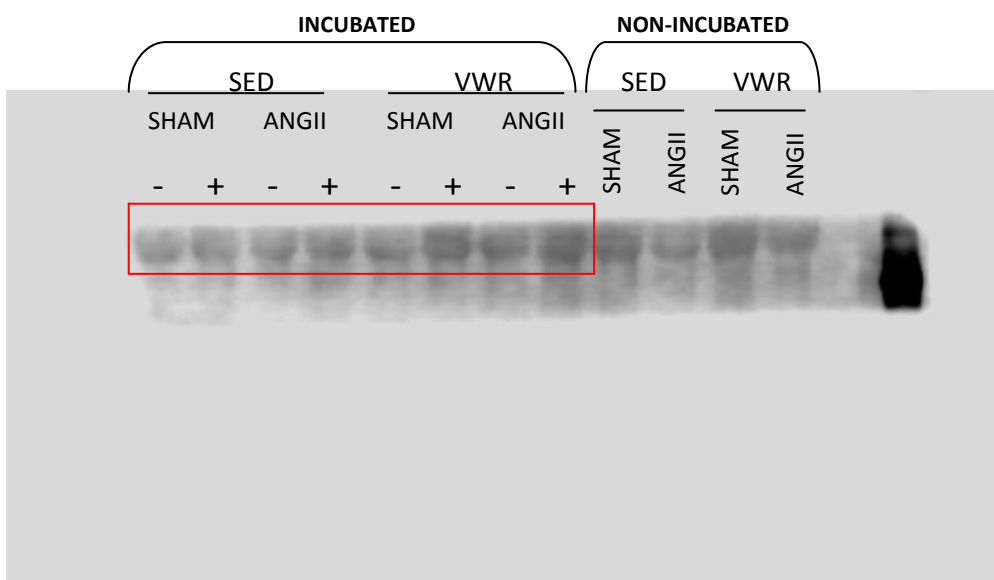


**Figure 2.8** Expressions of Akt in incubated soleus muscle



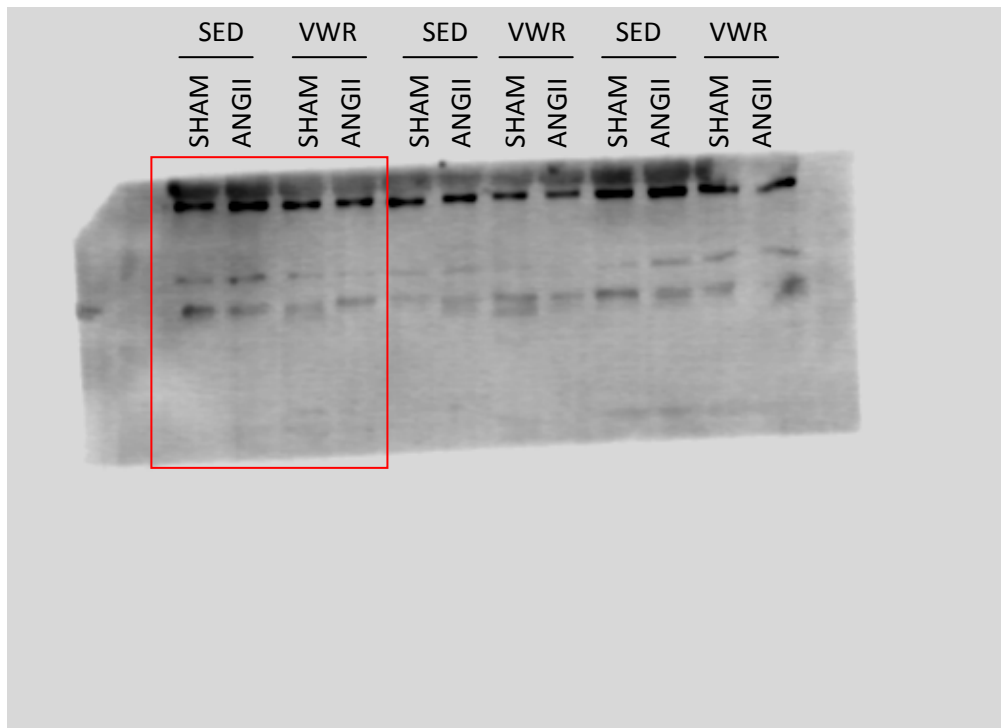


**Figure 2.9** Expressions of AS160 Thr<sup>642</sup> phosphorylation (p-AS160 Thr<sup>642</sup>) in incubated soleus muscle



**Figure 2.10** Expressions of AS160 in incubated soleus muscle

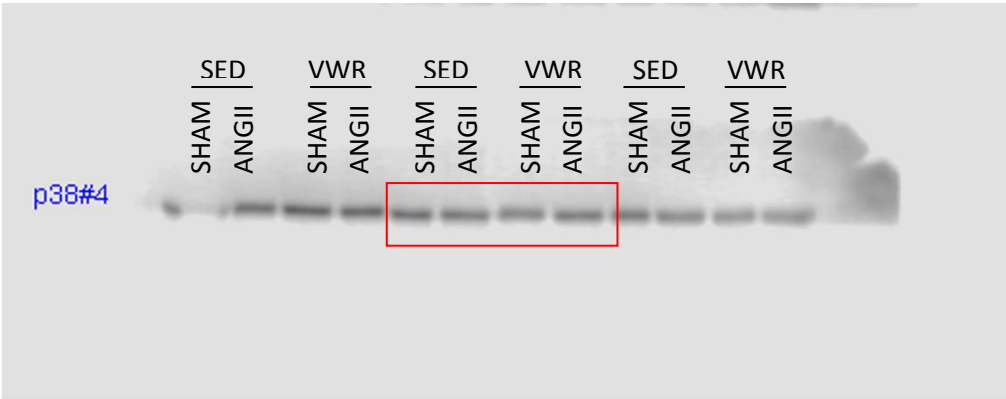
**3. Original gels of expressions of 4-HNE protein in non-incubated soleus muscle represent in Figure 5A and MAPKs protein in non-incubated and incubated soleus muscle represent in Figure 5B and 5C respectively.**



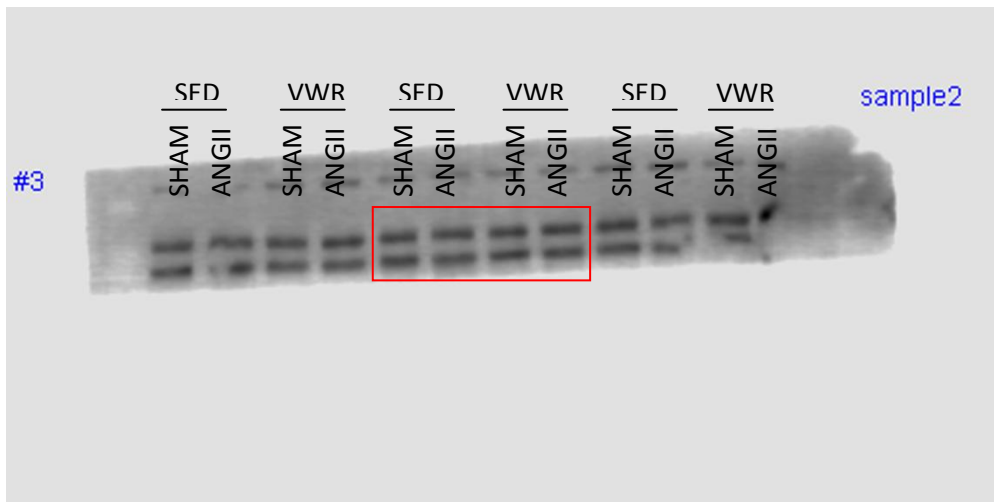
**Figure 3.1 Expressions of 4-HNE protein in non-incubated soleus muscle**



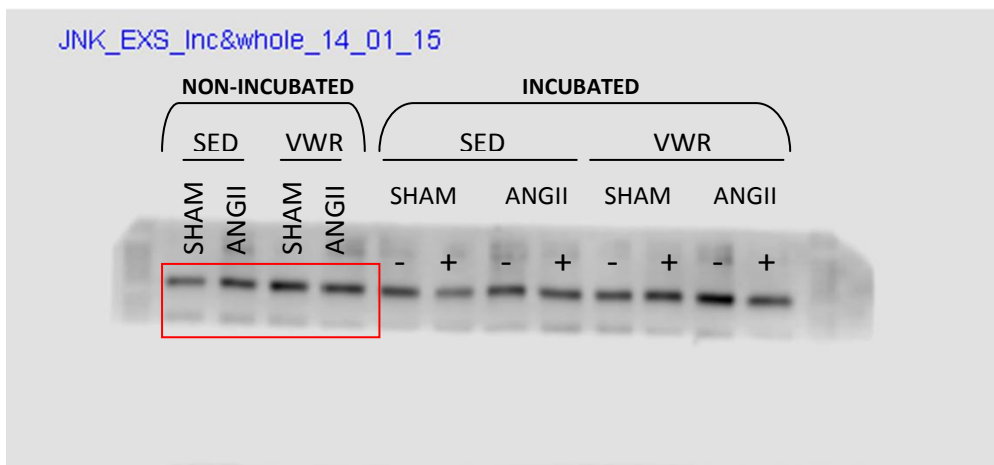
**Figure 3.2 Expressions of phosphorylated p38 MAPK (Thr<sup>180</sup>/Tyr<sup>182</sup>) (p-p38 MAPK) in non-incubated soleus muscle**



**Figure 3.3 Expressions of p38 MAPK in non-incubated soleus muscle**



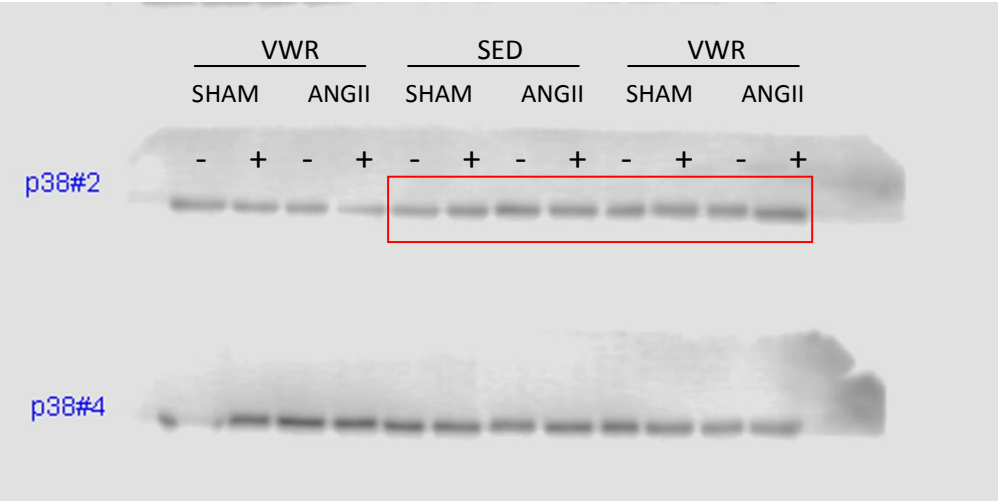
**Figure 3.4 Expressions of phosphorylated SAPK/JNK (Thr<sup>183</sup>/Tyr<sup>185</sup>) (p-SAPK/JNK) in non-incubated soleus muscle**



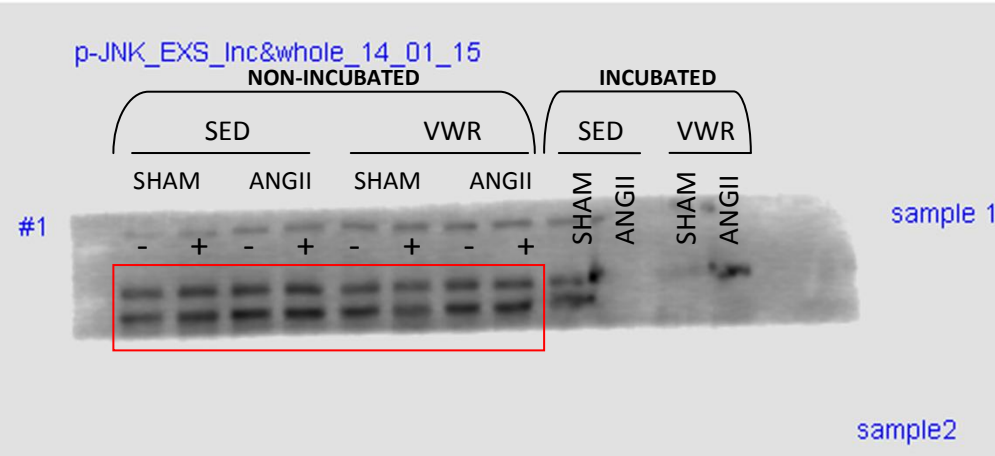
**Figure 3.5 Expressions of SAPK/JNK in non-incubated soleus muscle**



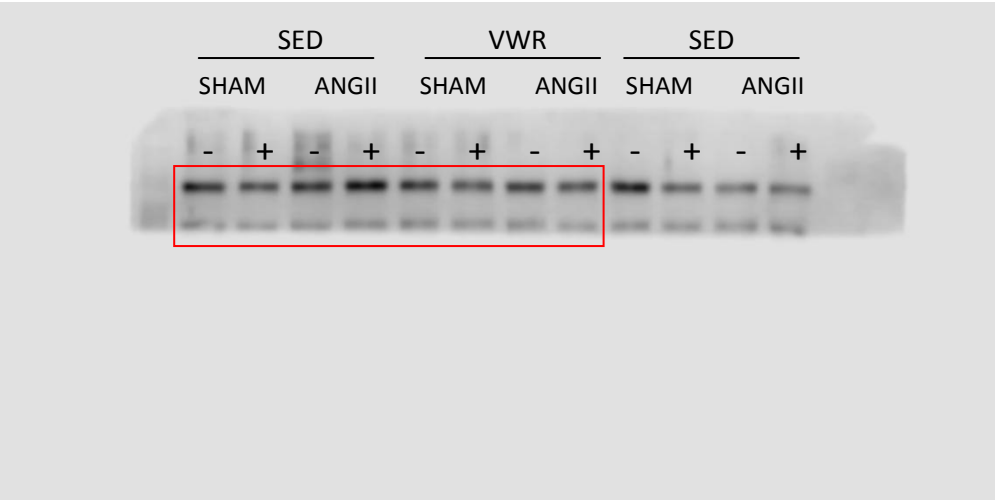
**Figure 3.6 Expressions of phosphorylated p38 MAPK (Thr<sup>180</sup>/Tyr<sup>182</sup>) (p-p38 MAPK) in incubated soleus muscle**



**Figure 3.7 Expressions of p38 MAPK in incubated soleus muscle**



**Figure 3.8 Expressions of phosphorylated SAPK/JNK (Thr<sup>183</sup>/Tyr<sup>185</sup>) (p-SAPK/JNK) in incubated soleus muscle**



**Figure 3.9 Expressions of SAPK/JNK in incubated soleus muscle**

4. Original gels of expressions of AMPK and phosphorylated AMPK Thr<sup>172</sup> (p-AMPK Thr<sup>172</sup>) in Figure 6A, expressions of ACE1, AT1R and AT2R Figure 6B) and ACE2 and MAS receptor (MasR) in Figure 6C in non-incubated soleus muscle.

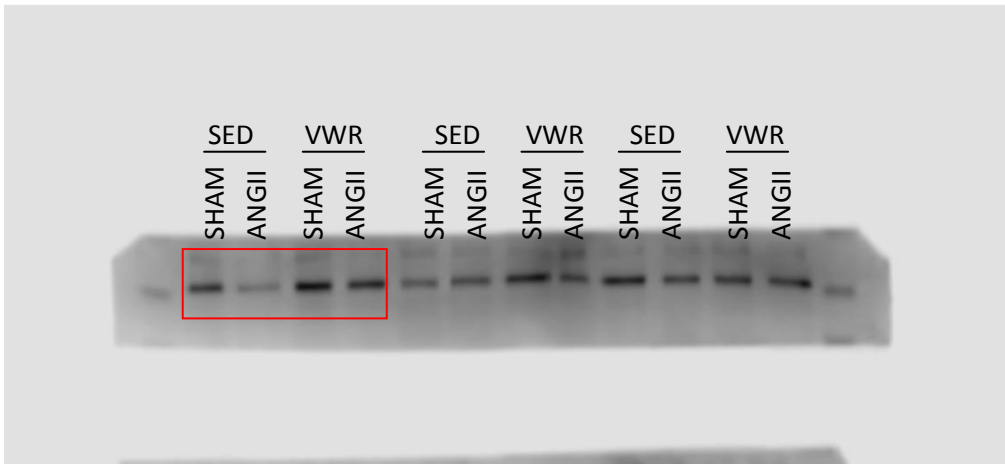
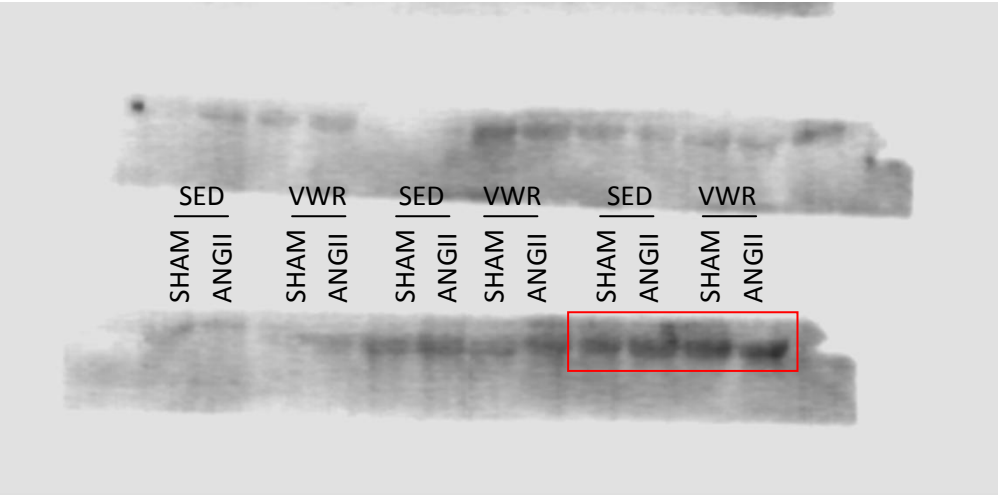


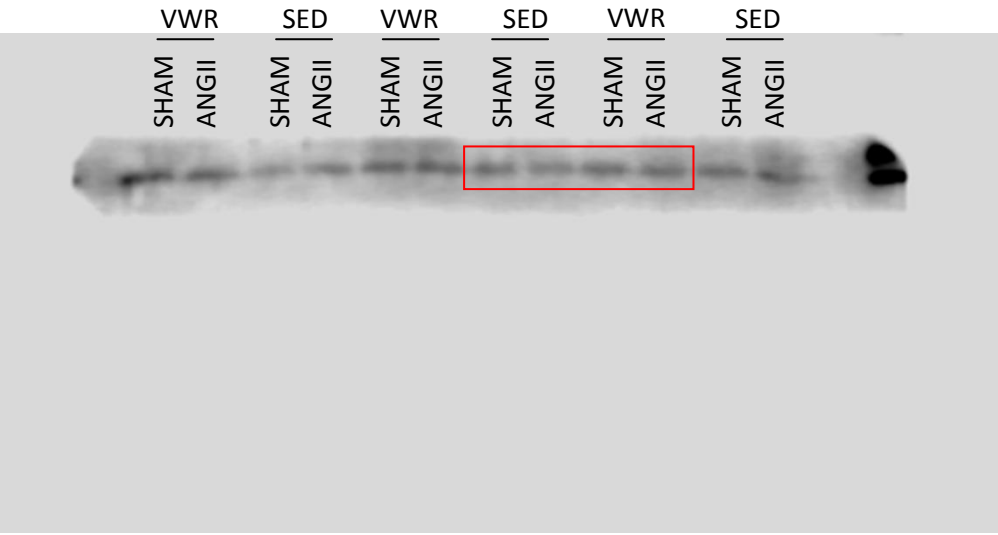
Figure 4.1 Expressions of phosphorylated AMPK Thr<sup>172</sup> (p-AMPK Thr<sup>172</sup>) in non-incubated soleus muscle



Figure 4.2 Expressions of AMPK in non-incubated soleus muscle

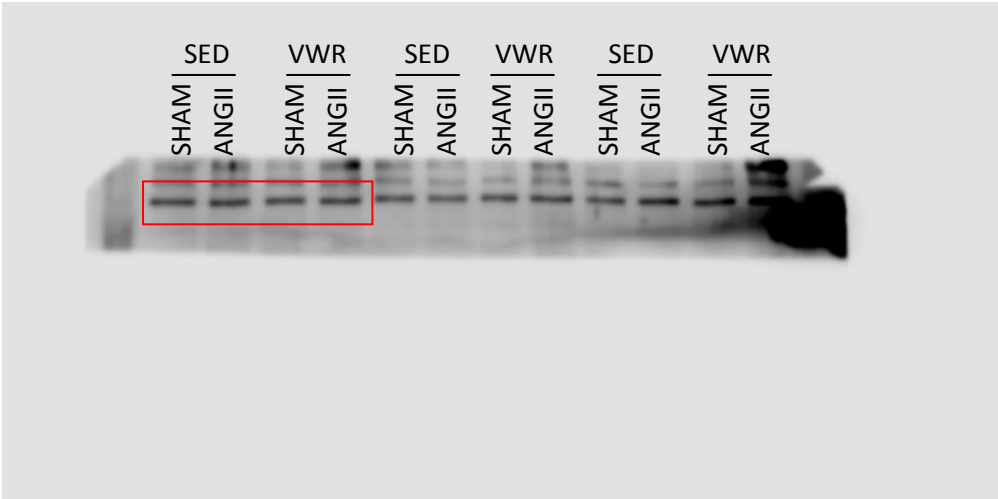


**Figure 4.3 Expressions of ACE1 in non-incubated soleus muscle**

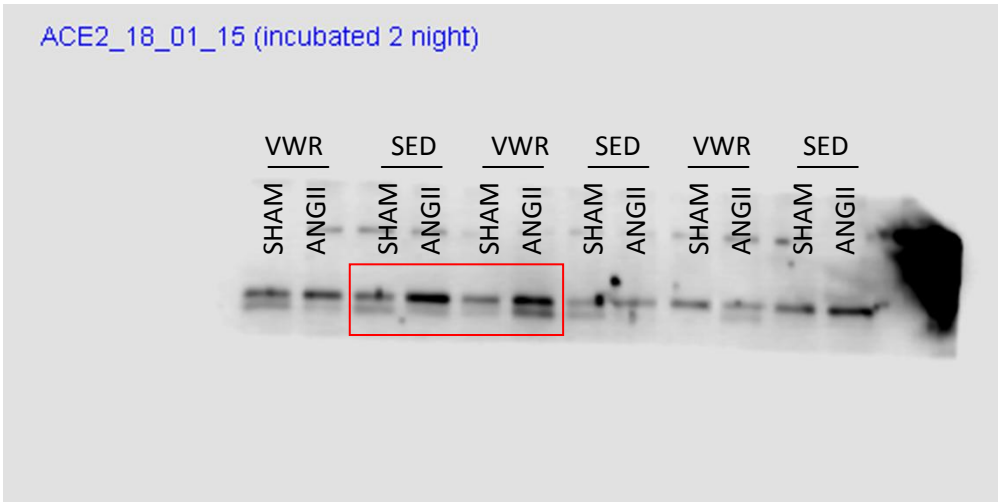


**Figure 4.4 Expressions of AT1R in non-incubated soleus muscle**

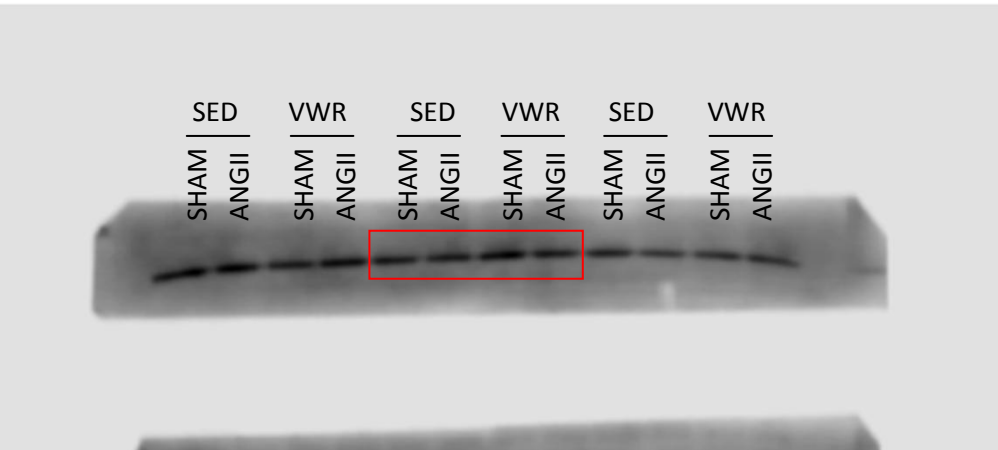




**Figure 4.5 Expressions of AT2R in non-incubated soleus muscle**



**Figure 4.6 Expressions of ACE2 in non-incubated soleus muscle**



**Figure 4.7** Expressions of MasR in non-incubated soleus muscle