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Regulation of annexins following infection like tissue damage – investigated by 2-dimensional gel electrophoresis.

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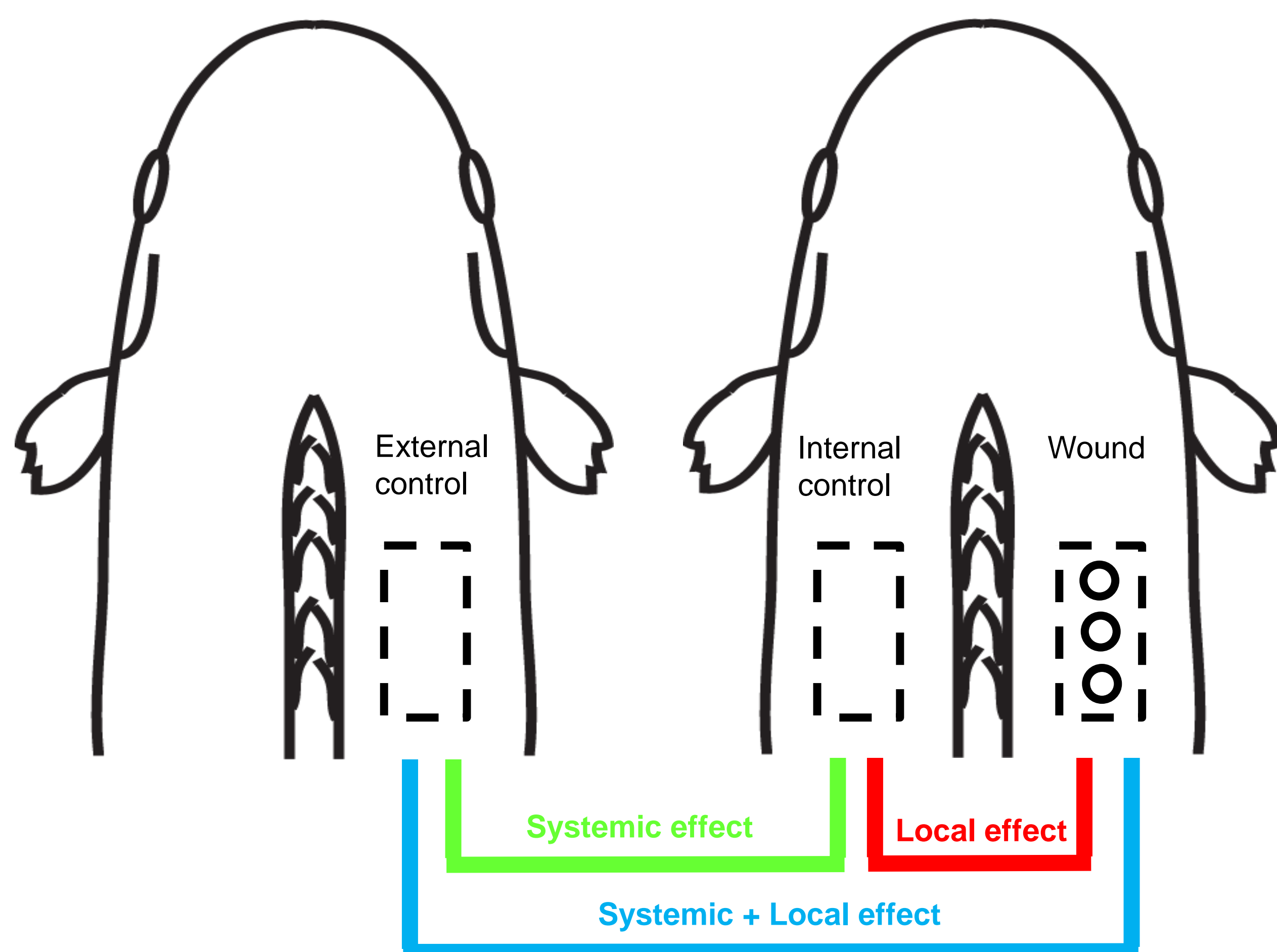
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Regulation of annexins following infection like tissue damage – investigated by 2-dimensional gel electrophoresis

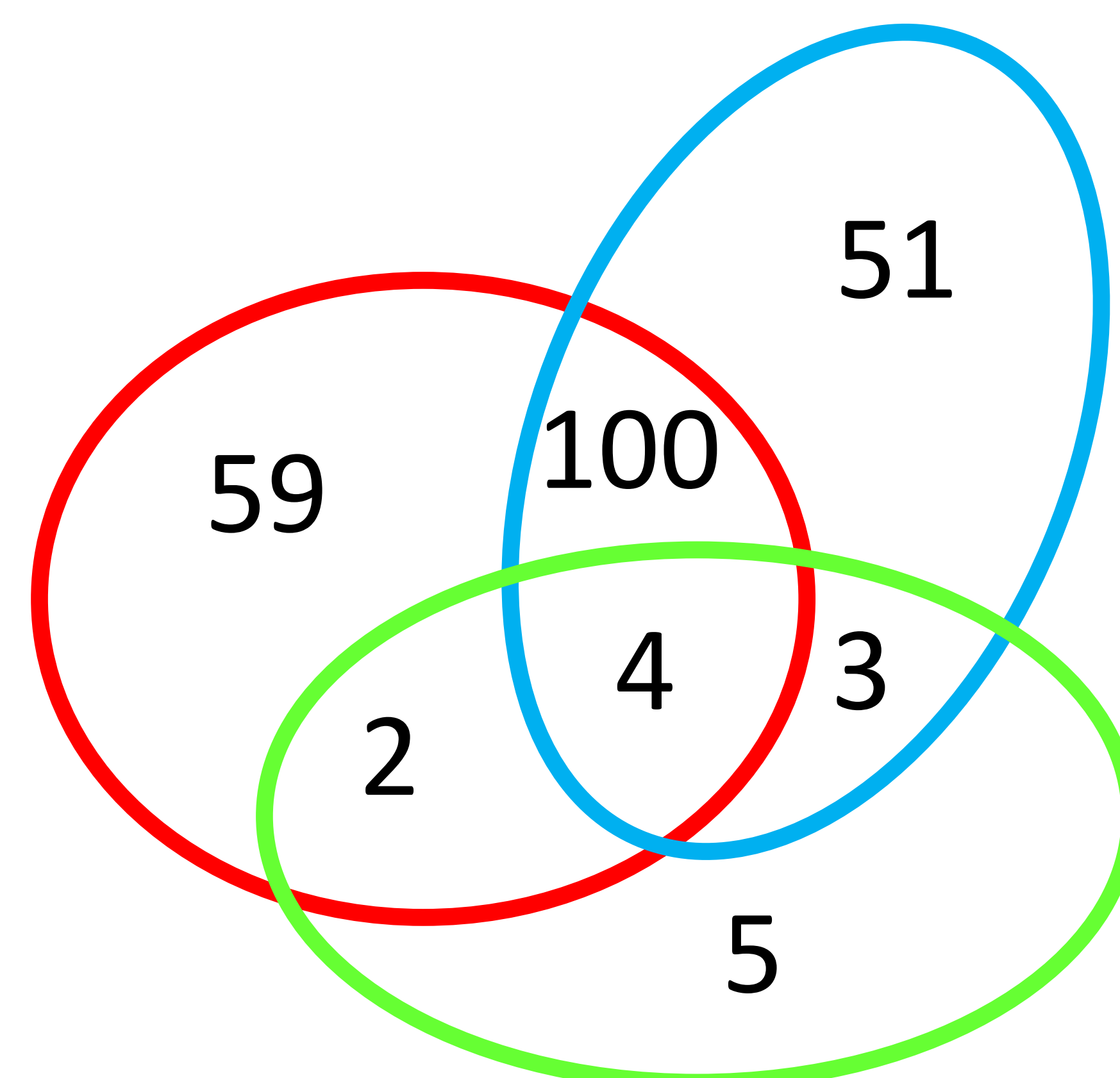
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Experimental model system



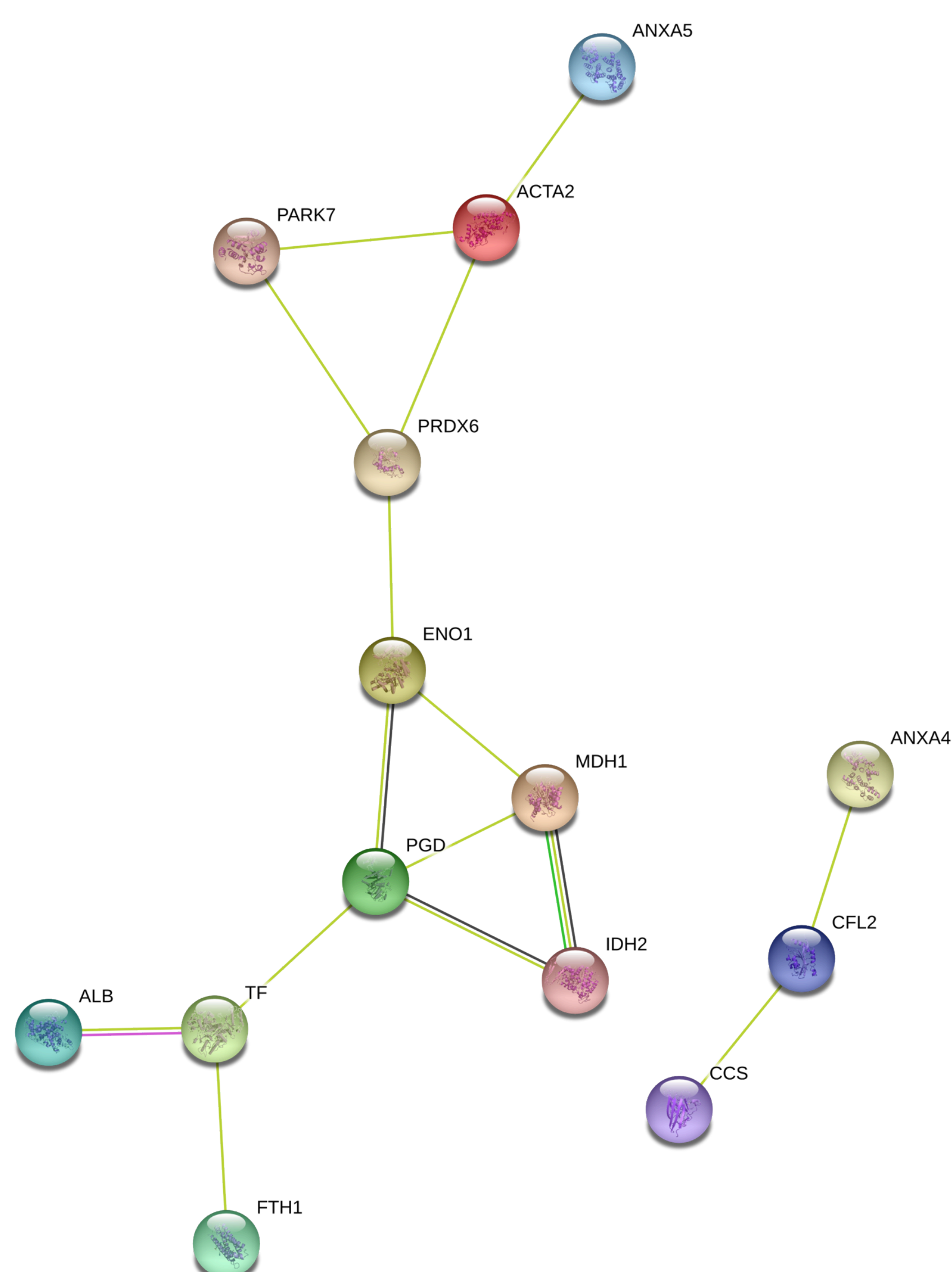
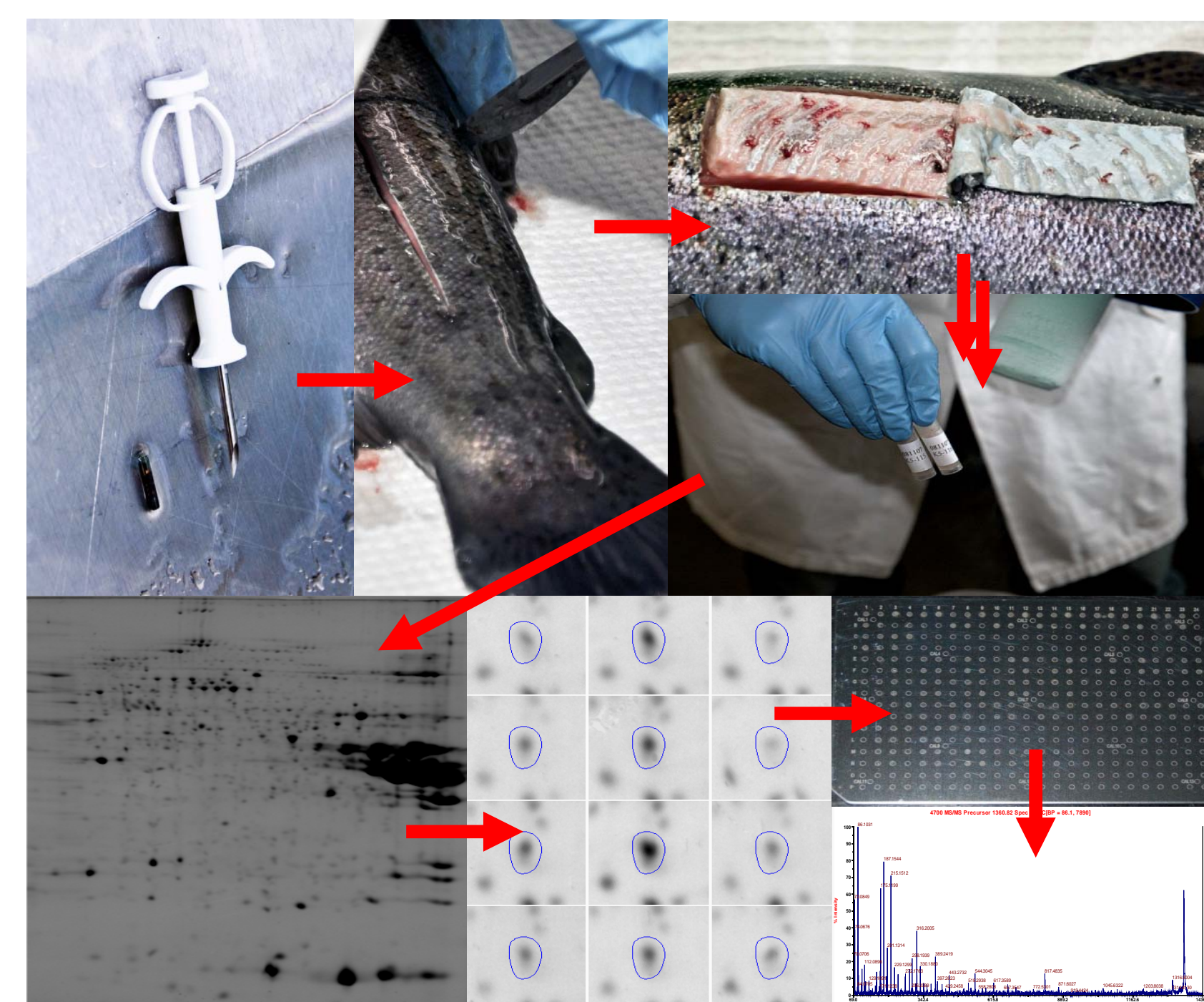
Design: 14 rainbow trout (640 g, 34 cm) were used for the experiment. Seven fish were injured and seven fish were uninjured followed by sampling at day 7. Samples were taken from the muscle tissue above the lateral line anterior to the dorsal fin. The colours indicate the different comparisons made within the experimental setup: **Internal control v. wounding**, **External control v. wounding** and **Internal control v. external control**

Result overview



Number of proteins changing between the three comparisons presented in the experimental design. Differences are established based on a paired T-test (**Internal control v. wounding**) and a unpaired T-test (**External control v. wounding** and **internal control v. external control**)

Methods



Identified proteins which are regulated by wounding in rainbow trout. Their individual connection are assigned using "STRING – known and predicted Protein-Protein interactions" (<http://string-db.org>). Annotation : Annexin 4 (ANXA4) Annexin 5 (ANXA5), Actin (ACTA2), Peroxiredoxin 6 (prdx6), α Enolase (ENO1), Malate dehydrogenase (MDH1), 6-phosphogluconate dehydrogenase (PGD), Isocitrate dehydrogenase 3 (NAD+) (IDH2), Transferrin (TF), Serum Albumin (ALB). Ferritin (FTH1), Cofilin 2 (CFL2) and Superoxide dismutase (CCS).

Conclusion

- Annexin-4 and -5 are regulated by wounding
- Based on the interaction assigned in STRING following wounding Annexin-4 and 5- involved in regulating:
 - Muscle structure
 - Iron metabolism
 - Energy metabolism