

The protein kinases SmFES and SmRAF may influence *Schistosoma mansoni* development, egg maturation, and hepatic granulomas progression in the mammalian host

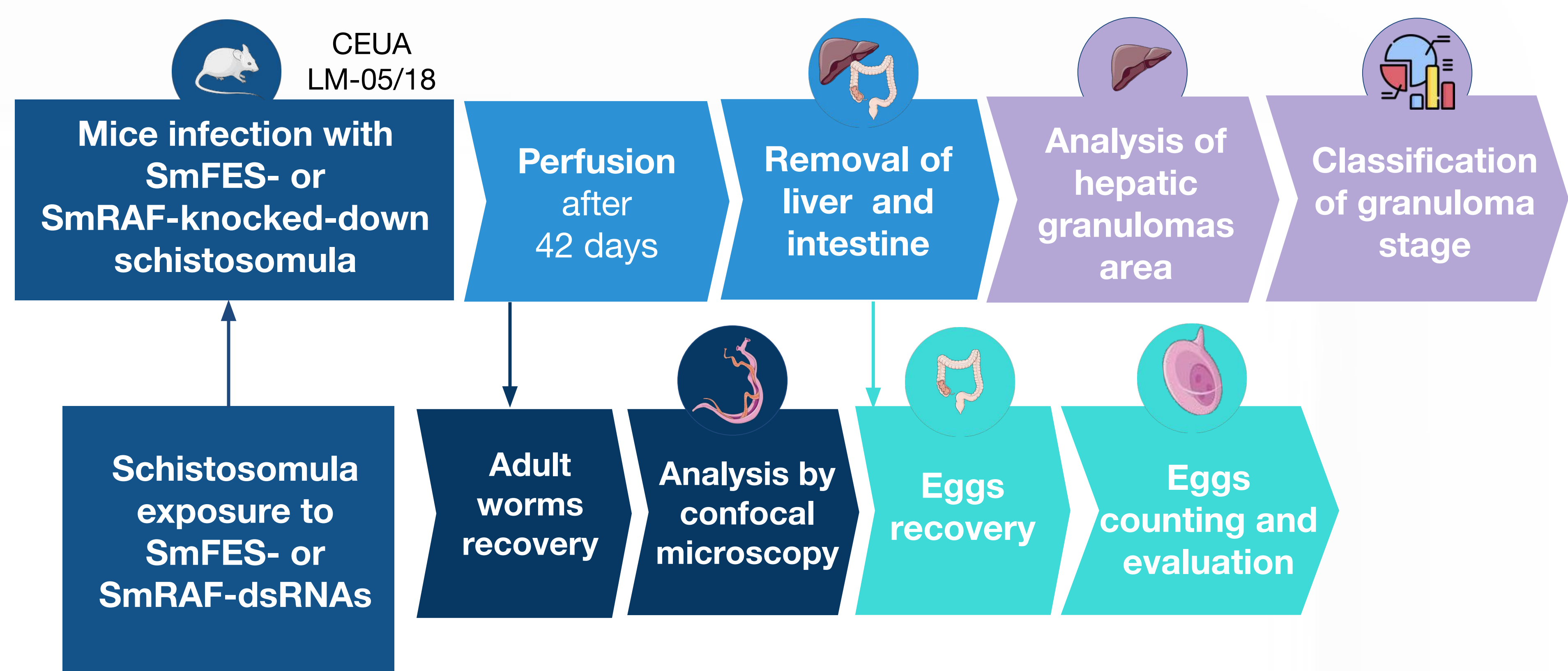
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INTRODUCTION

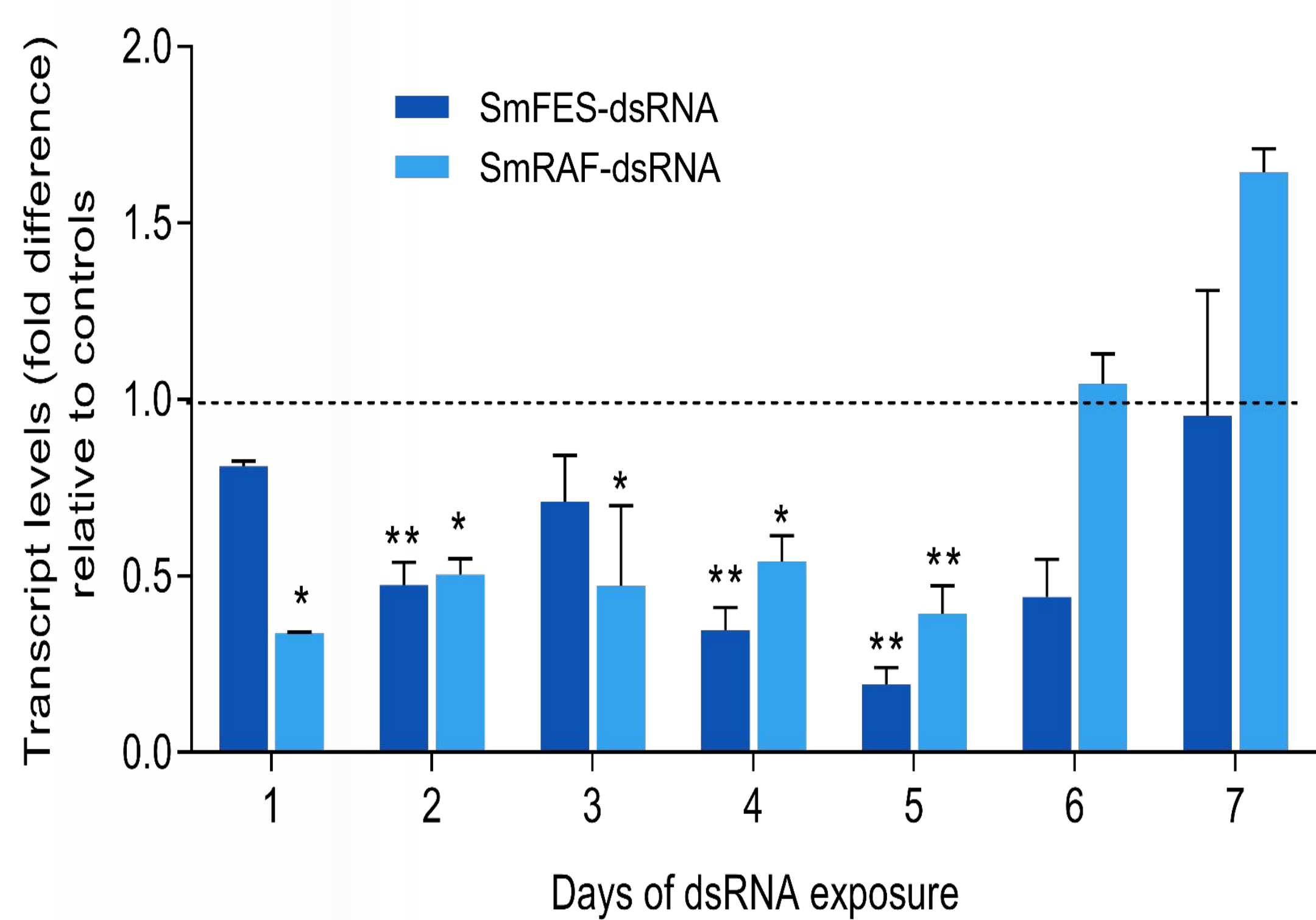
Schistosomiasis' pathology is induced by eggs deposited in the mammalian host tissues and causes high morbidity. Its treatment relies on a single drug, praziquantel. However, praziquantel treatment presents limitations, thus functional studies to elucidate parasite specific novel targets are needed to find alternative therapies. Studies suggest that protein kinases (PKs) have an essential role in *Schistosoma mansoni* development and survival. Therefore, this study aims at investigating the functions of SmFES and SmRAF PKs in the schistosomula development and during the establishment of mammalian and intermediate host infection.

METHODOLOGY

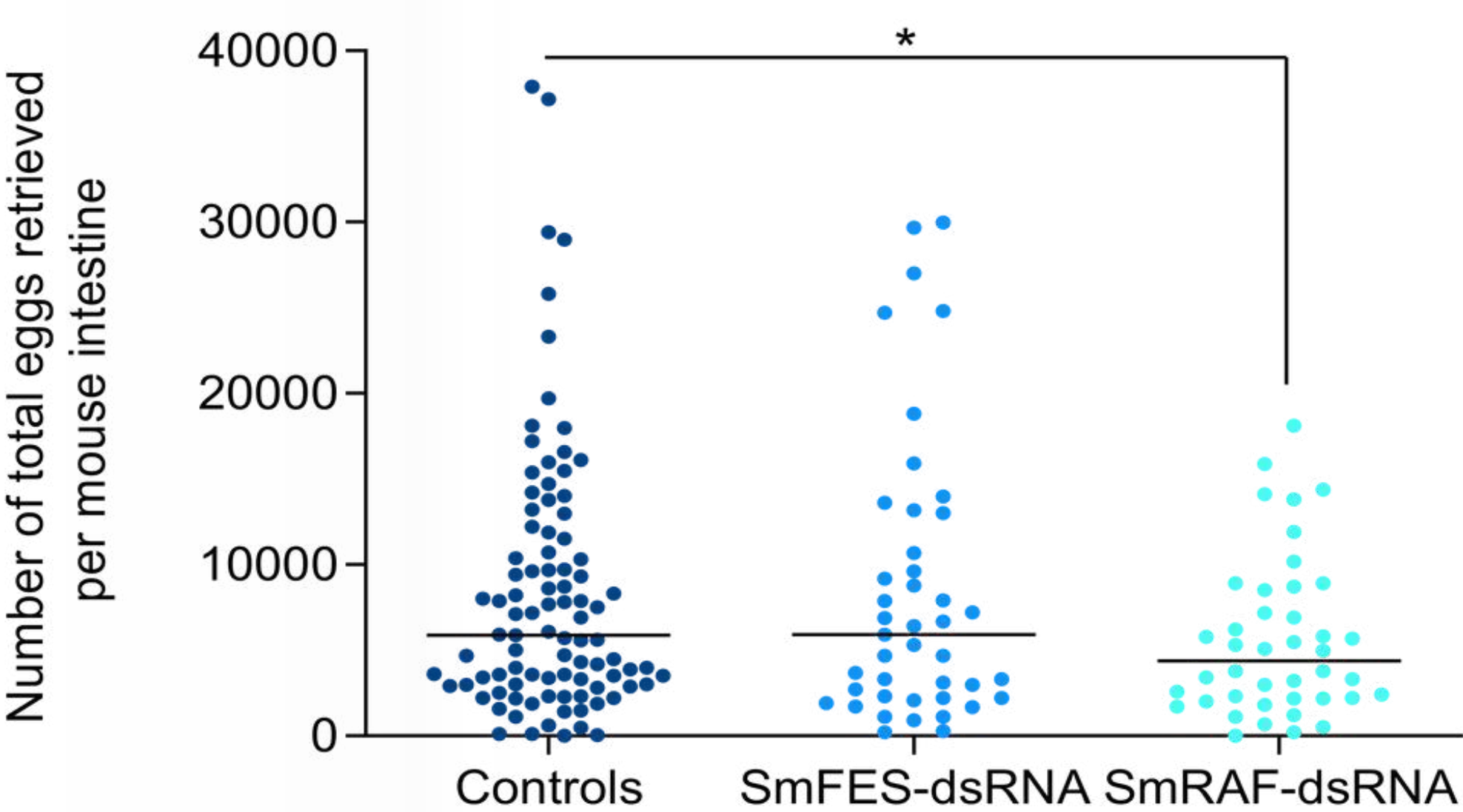


RESULTS

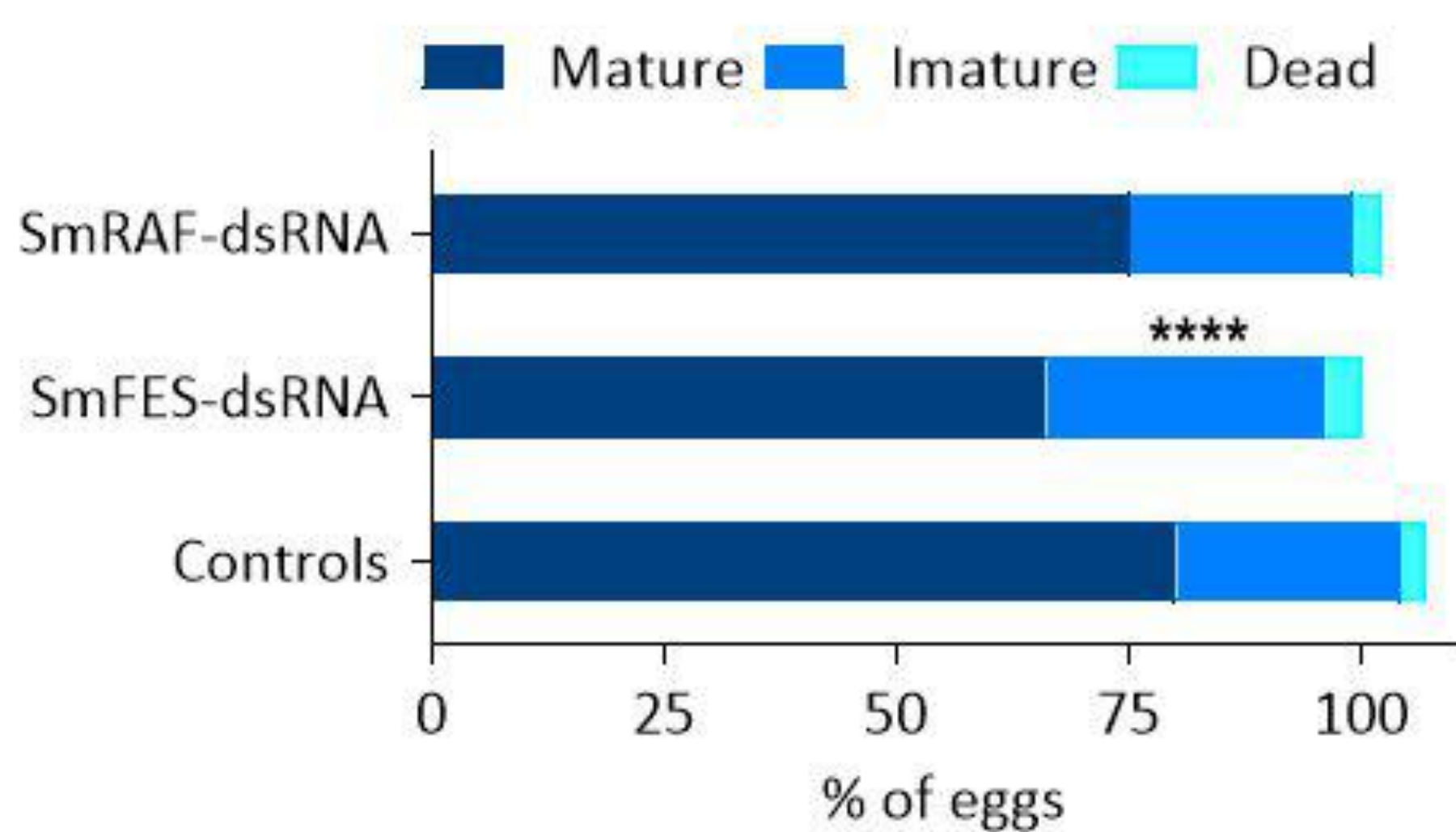
TRANSCRIPT LEVELS IN SmFES- and SmRAF- KNOCKDOWN SCHISTOSOMULA



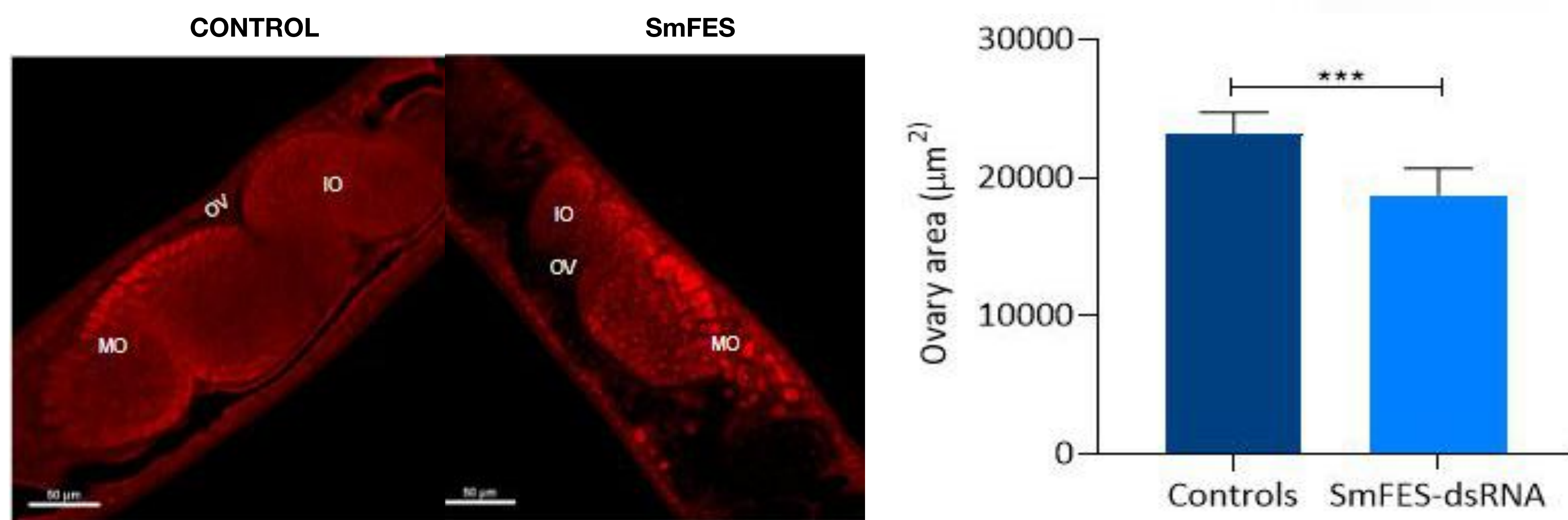
TOTAL INTESTINAL EGGS RECOVERED FROM MICE INFECTED WITH SmFES and SmRAF KNOCKED-DOWN SCHISTOSOMULA



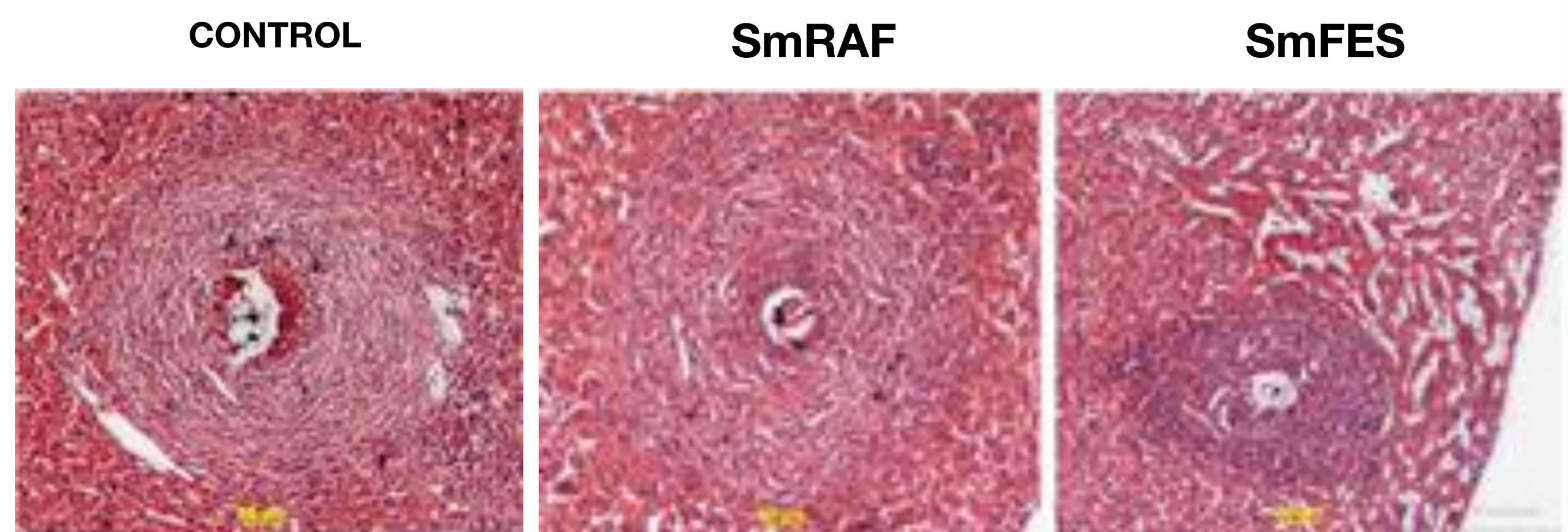
MATURATION OF EGGS PRESENT IN THE ILEUM OF MICE INFECTED WITH SmFES and SmRAF KNOCKED-DOWN SCHISTOSOMULA



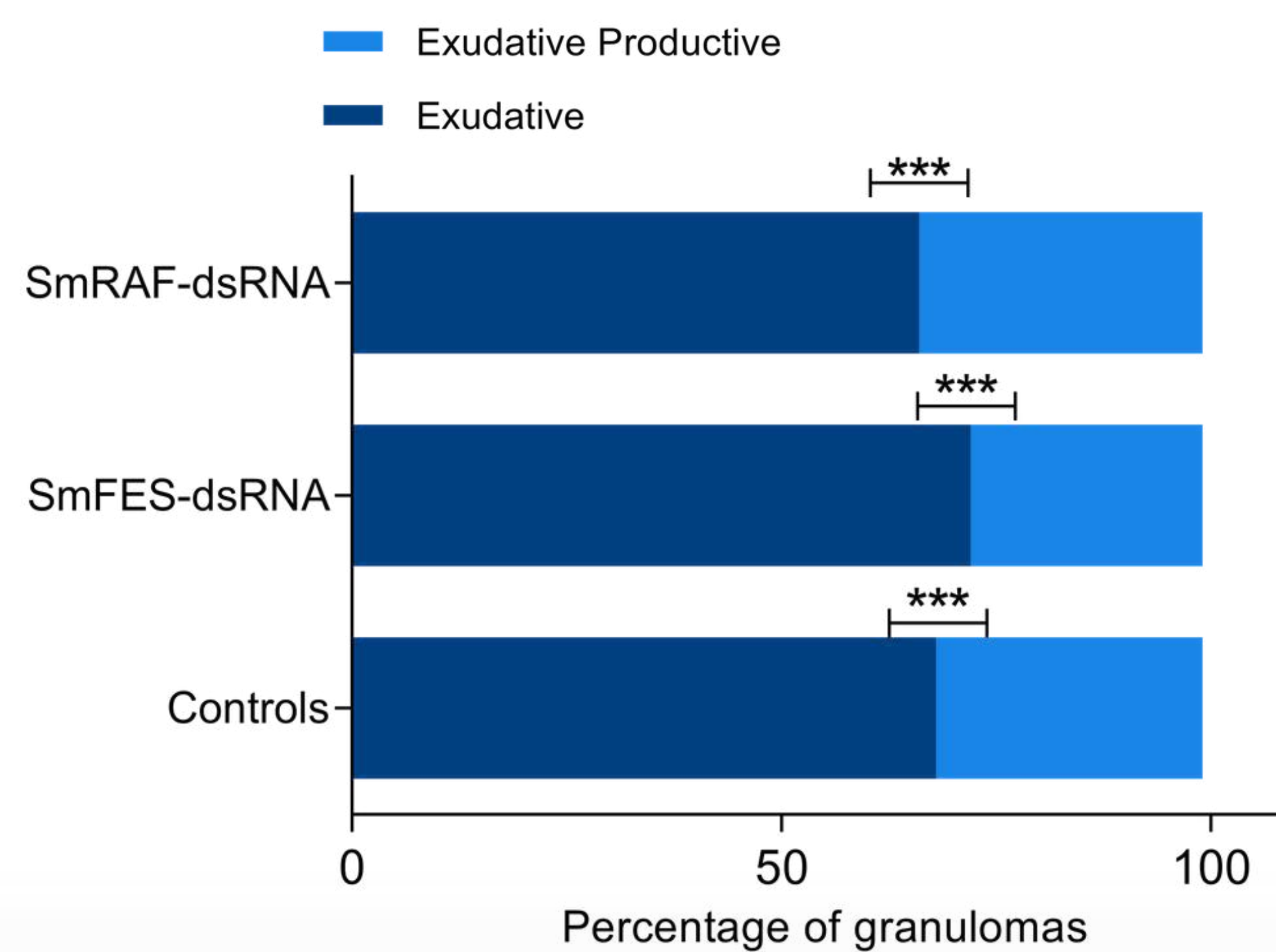
CONFOCAL AND MORPHOMETRIC ANALYSIS OF THE OVARY AREA OF FEMALES RECOVERED FROM MICE INFECTED WITH SmFES and SmRAF KNOCKED-DOWN SCHISTOSOMULA



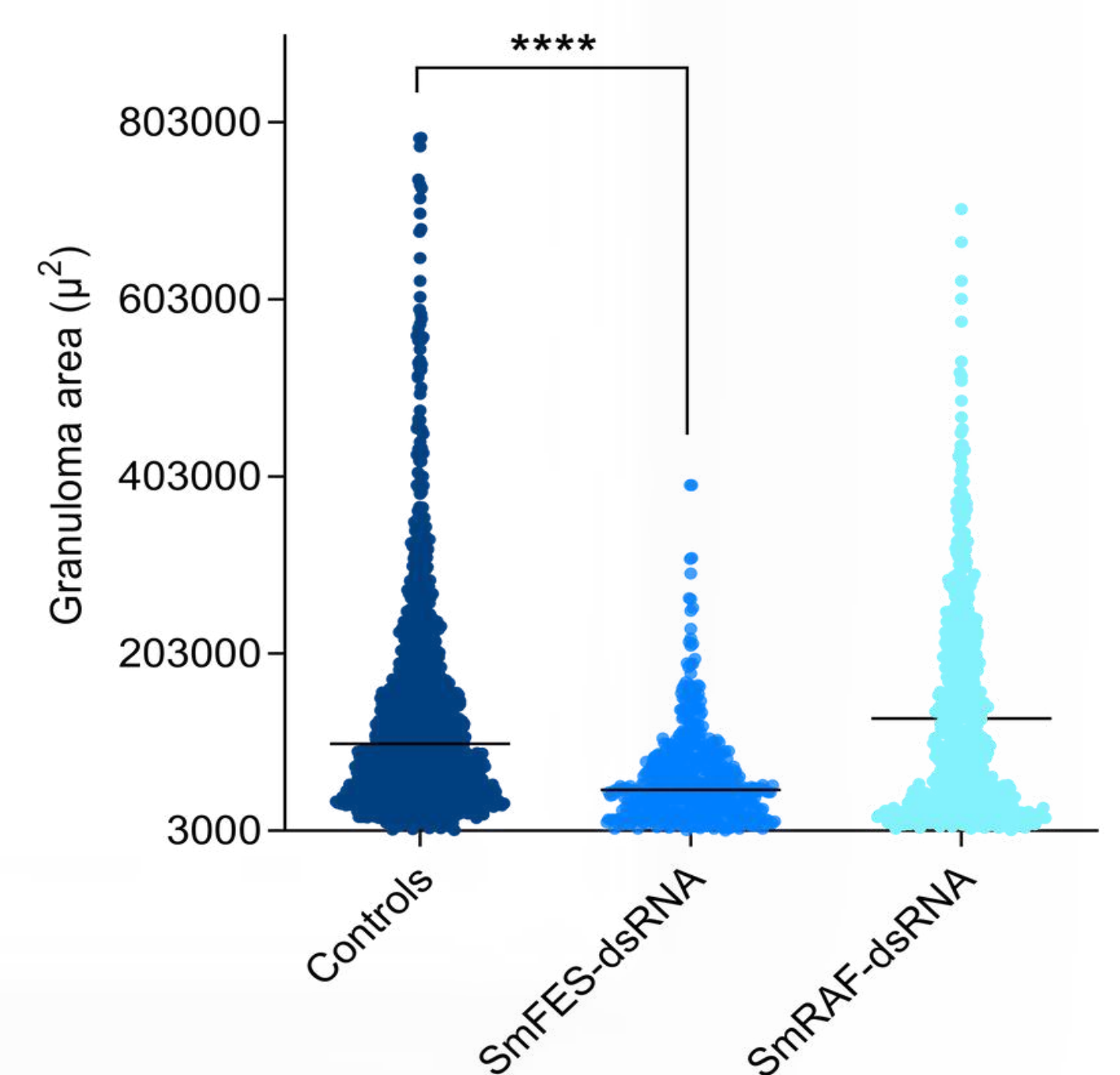
REPRESENTATIVE IMAGES OF HEPATIC GRANULOMAS FROM MICE INFECTED WITH SmFES and SmRAF KNOCKED-DOWN SCHISTOSOMULA



CLASSIFICATION OF HEPATIC GRANULOMAS FROM MICE INFECTED WITH SmFES and SmRAF KNOCKED-DOWN SCHISTOSOMULA



HEPATIC GRANULOMAS AREA FROM MICE INFECTED WITH SmFES and SmRAF KNOCKED-DOWN SCHISTOSOMULA



CONCLUSION

- SmFES influences egg maturation and exudate components, which affects granuloma formation;
- SmFES seems to be essential to granuloma formation and could be explored as a target to assist in schistosomiasis pathology control;
- SmFES may influence the development of females ovaries recovered from mice infected with SmFES knocked-down schistosomula;
- SmRAF may participate in egg production, but more studies should be conducted to elucidate its role.