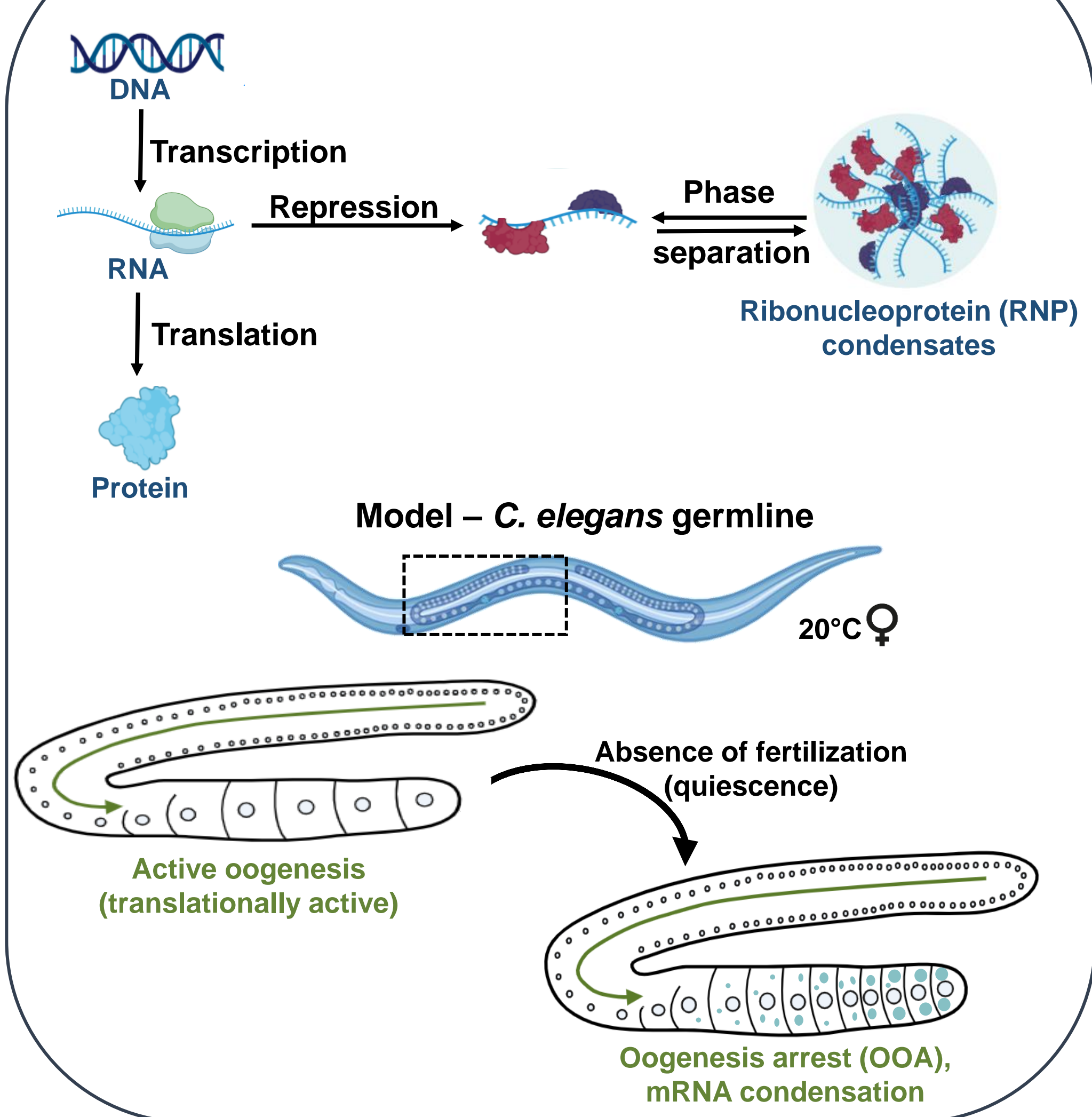
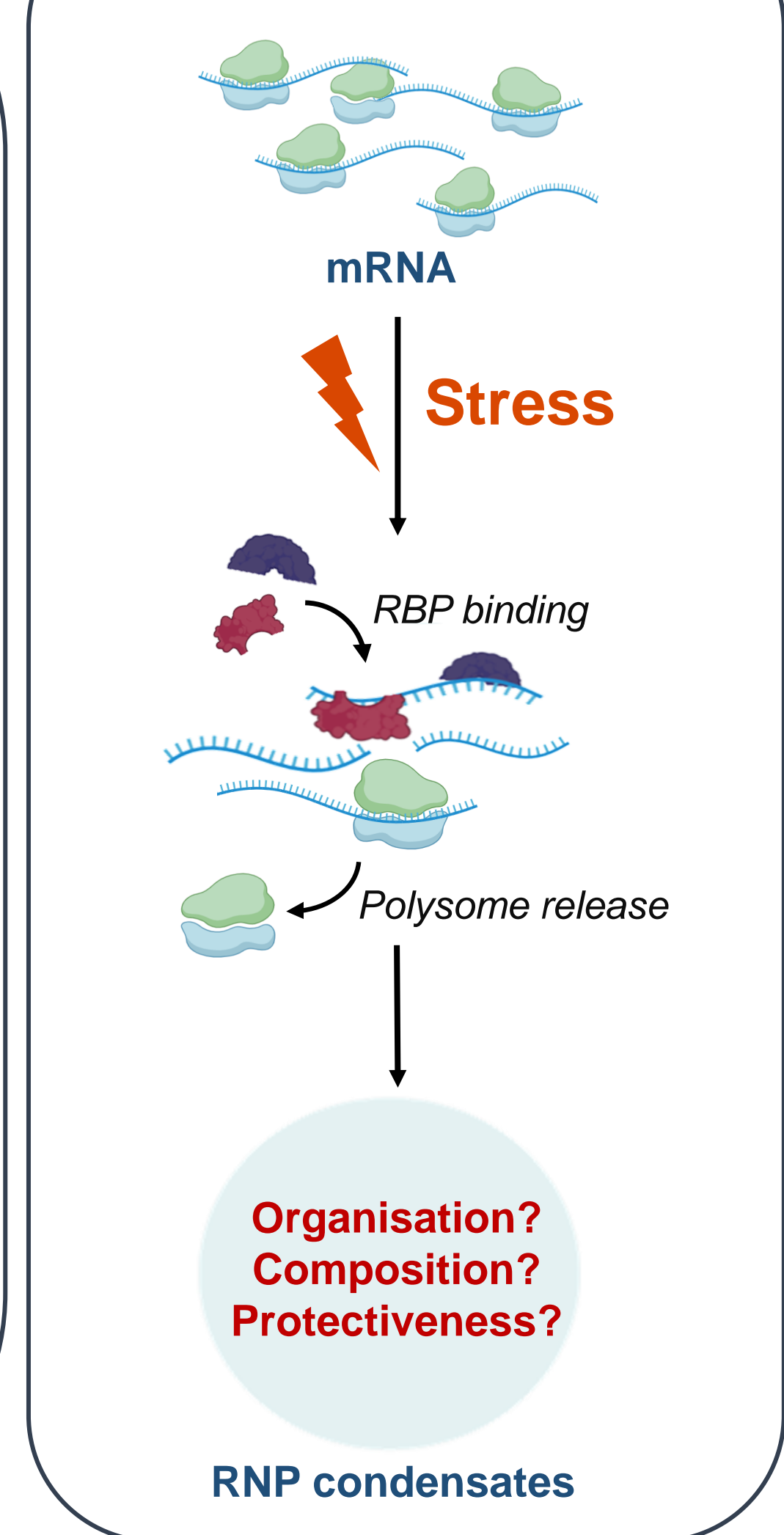


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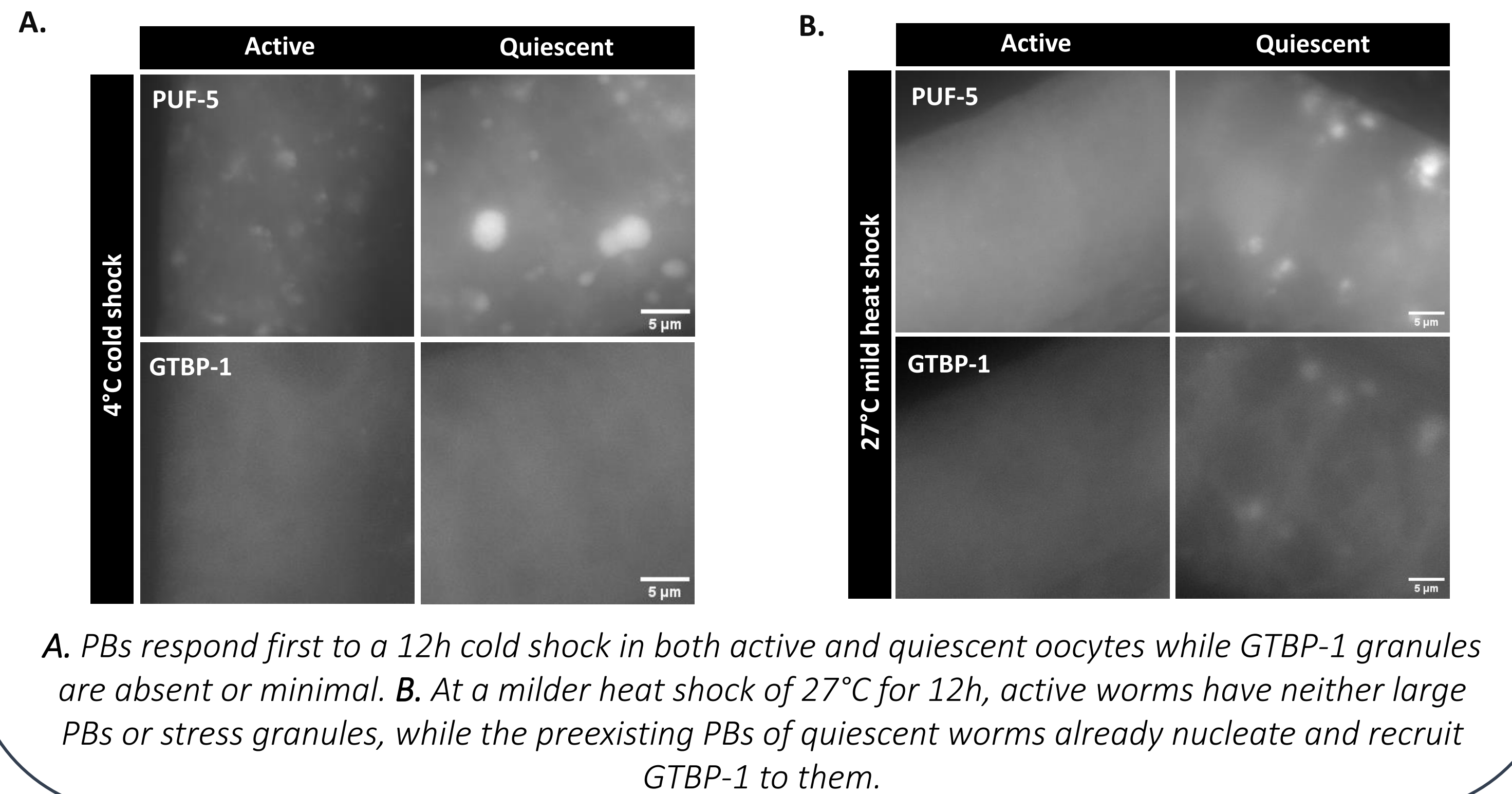
Introduction



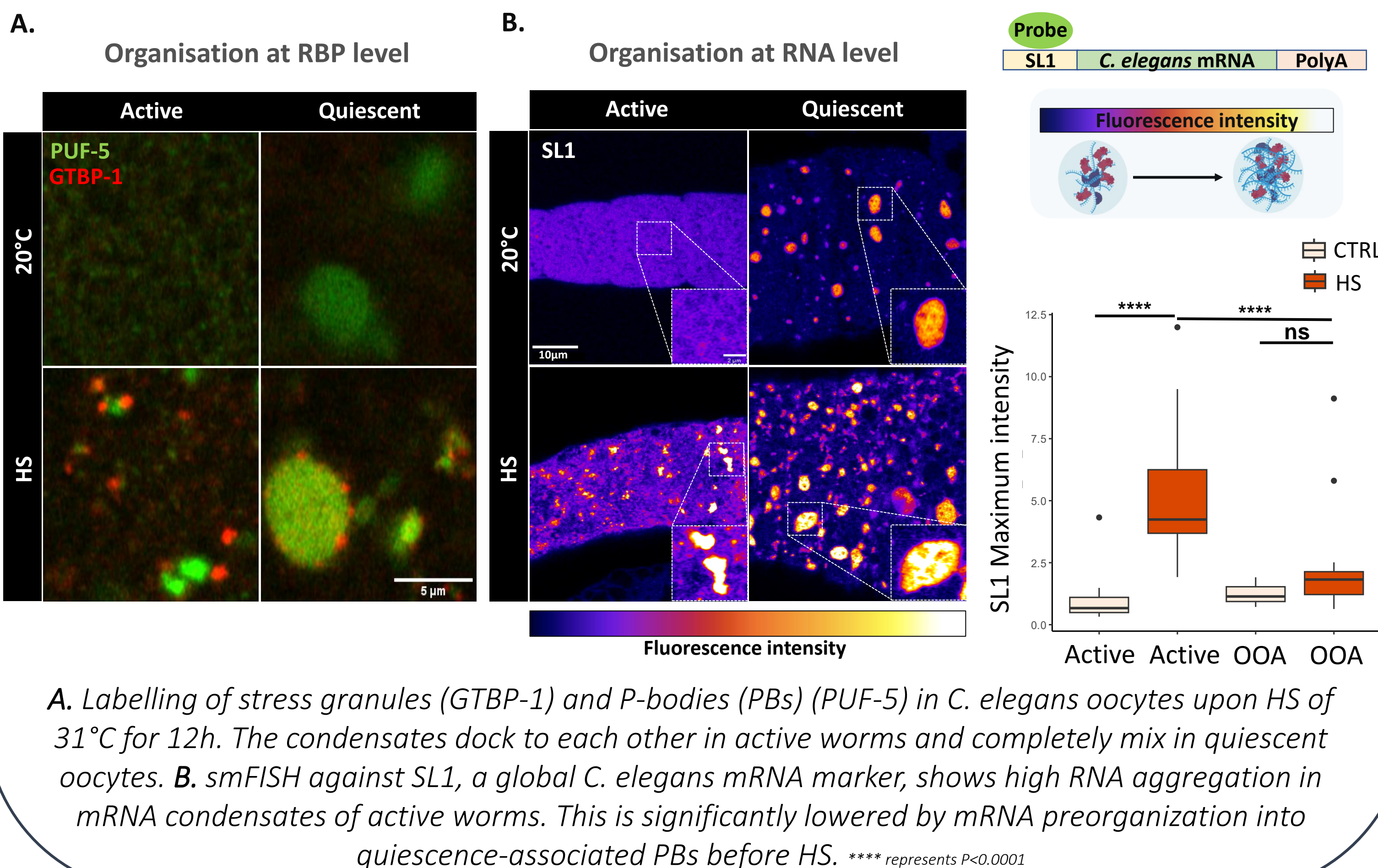
Question



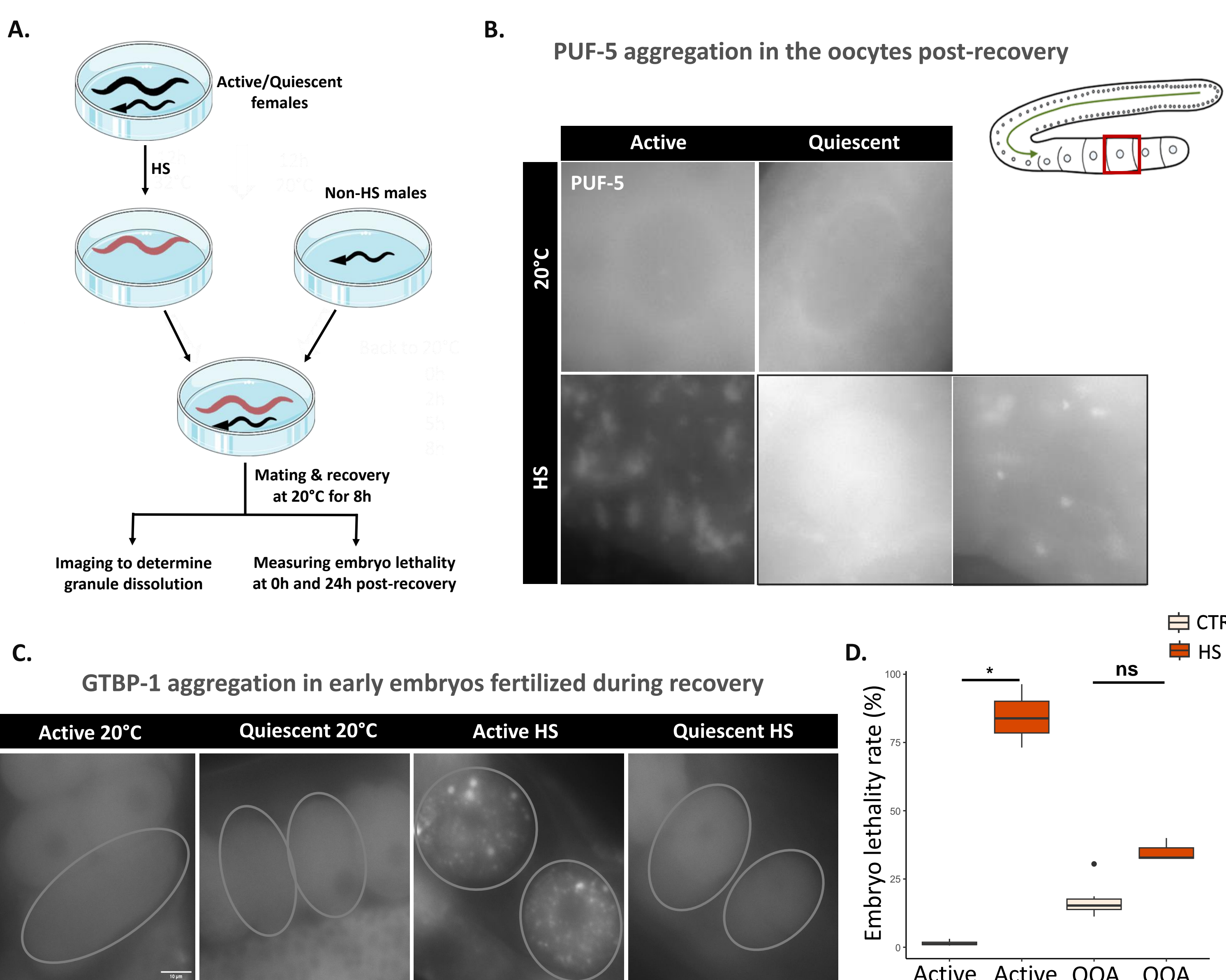
3. Stress-induced mRNP condensate protein content varies depending on the stress



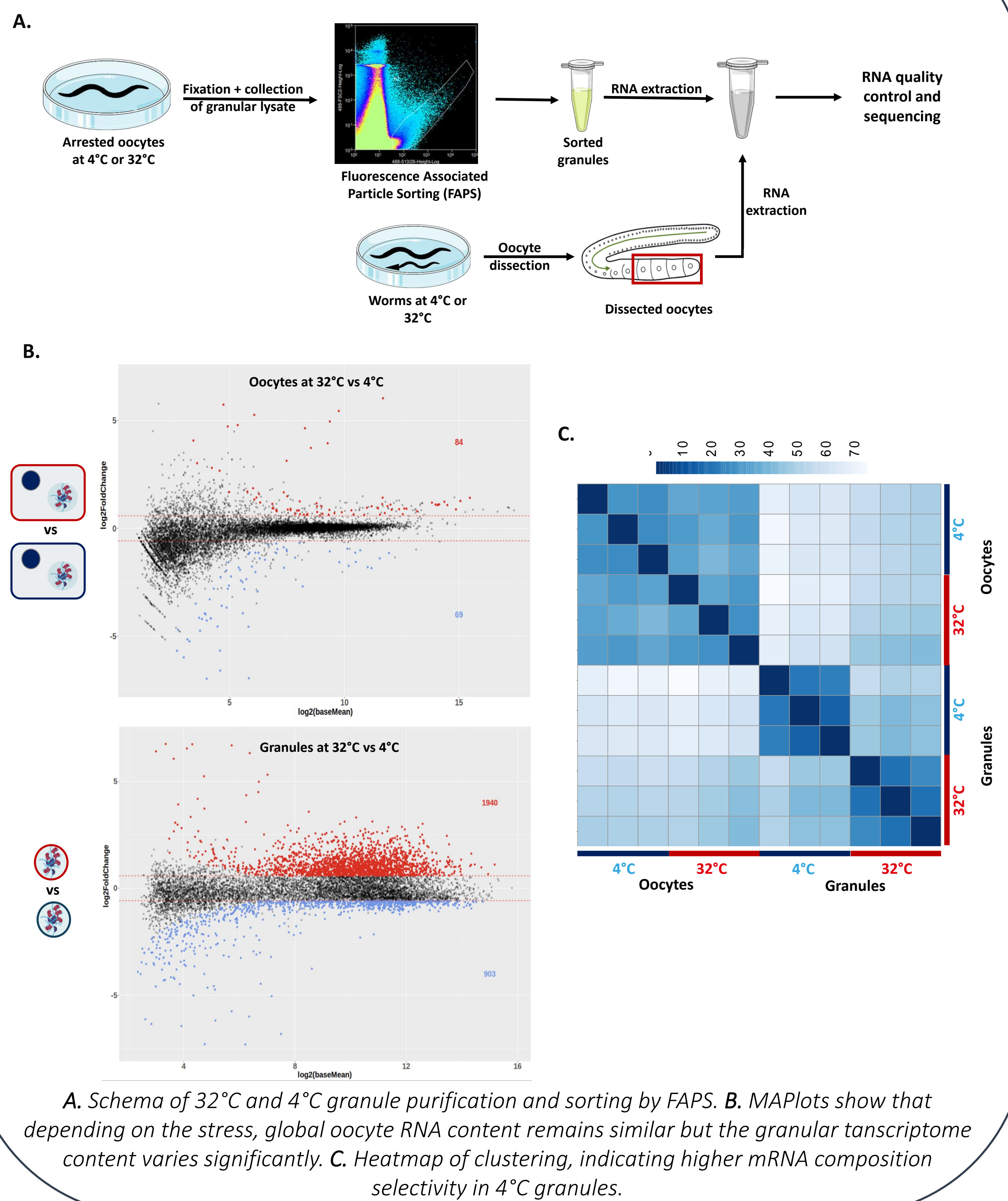
1. Quiescence alters mRNP condensate organisation during heat shock (HS)



2. Quiescence-induced mRNP pre-organisation protects against HS-induced RBP aggregation, persistence of embryonic stress granules and embryonic lethality



4. Stress-induced transcriptomic changes predominantly occur in mRNA condensates



Conclusions

- In *C. elegans* oocyte, chronic HS causes growth of PUF-5-labelled P-bodies and formation of GTBP-1-labelled stress granules. The granules dock to each other, with little or no overlap, and with highly aggregated mRNA.
- Oocyte arrest and corresponding mRNA preorganization prior to HS leads to mixing of GTBP-1 and PUF-5 condensates and protects against mRNA and RBP aggregation, embryonic stress granule assemblies and improves embryo viability.
- Depending on the stress, the composition and selectivity of stress-induced mRNP condensates vary dramatically. Thereby, they seem to provide a mechanism for stress-dependent transcriptome regulation.

Perspectives

- Mechanistical understanding of the protective role of quiescence and prior mRNA preorganization during stress
- Genetic knockdown approaches to acutely determine stress-induced RNA condensate role in cellular adaptability.