

Exercise #2:

* *Read through Paragraph 1 & Paragraph 2*
* *Select which paragraph you find easier to understand*
* *Circle the words and features that improve your understanding*

Paragraph 1

This review will focus on biomolecular condensates that scientists have discovered or are discovering and what their possible functions are. P granules are a subclass of germ granules that coalesce through the progenitor germ lineage of the *C. elegans* nematode worm. The nucleolus, Cajal bodies and paraspeckles of the nucleus are also biomolecular condensates. P bodies, stress granules, germ granules (which P granules are a subset of), and Balbiani bodies of the cytoplasm also accumulate mRNAs under specific conditions or for specific organizational purposes. The function of the nuclear condensates and the cytoplasmic condensates are different and range from ribosome assembly, mRNA processing, gene regulation in the nucleus and germline regulation, mRNA processing, and cytoplasmic organization in the cytoplasm in addition to response to stress and environmental factors. Our cataloging of these structures is by no means complete as new types continue to emerge such as the recently discovered TIS granule and Z granule.

Paragraph 2

In recent years, many biological fields have identified biomolecular condensates associated with diverse cellular processes. For example, multiple biomolecular condensates within nuclei have been identified such as the nucleolus associated with ribosome assembly, Cajal bodies involved in RNA processing, and nuclear speckles ascribed to enhance gene expression (Politz et al., 2006; Yao et al., 2019; Liao and Regev, 2020; Alexander et al., 2021; Courchaine et al., 2021). In contrast, biomolecular condensates within the cytoplasm are associated with other roles. Of these, the P-bodies are sites of RNA metabolism, stress granules sequester mRNA, germ granules mediate germline gene expression, and Balbiani bodies attach cytoplasmic components together (Kedersha et al., 2005; Brangwynne et al., 2009; Voronina et al., 2011; Kroschwald et al., 2015; Boke et al., 2016; Protter and Parker, 2016). Beyond these well-studied examples, novel biomolecular condensates with additional putative functions are rapidly emerging (see Section 3).

