

**Supplementary Materials for
Differential Cytoskeletal Gene Expression
during *C. Elegans* Embryogenesis**

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This PDF file includes:

Supplementary Table

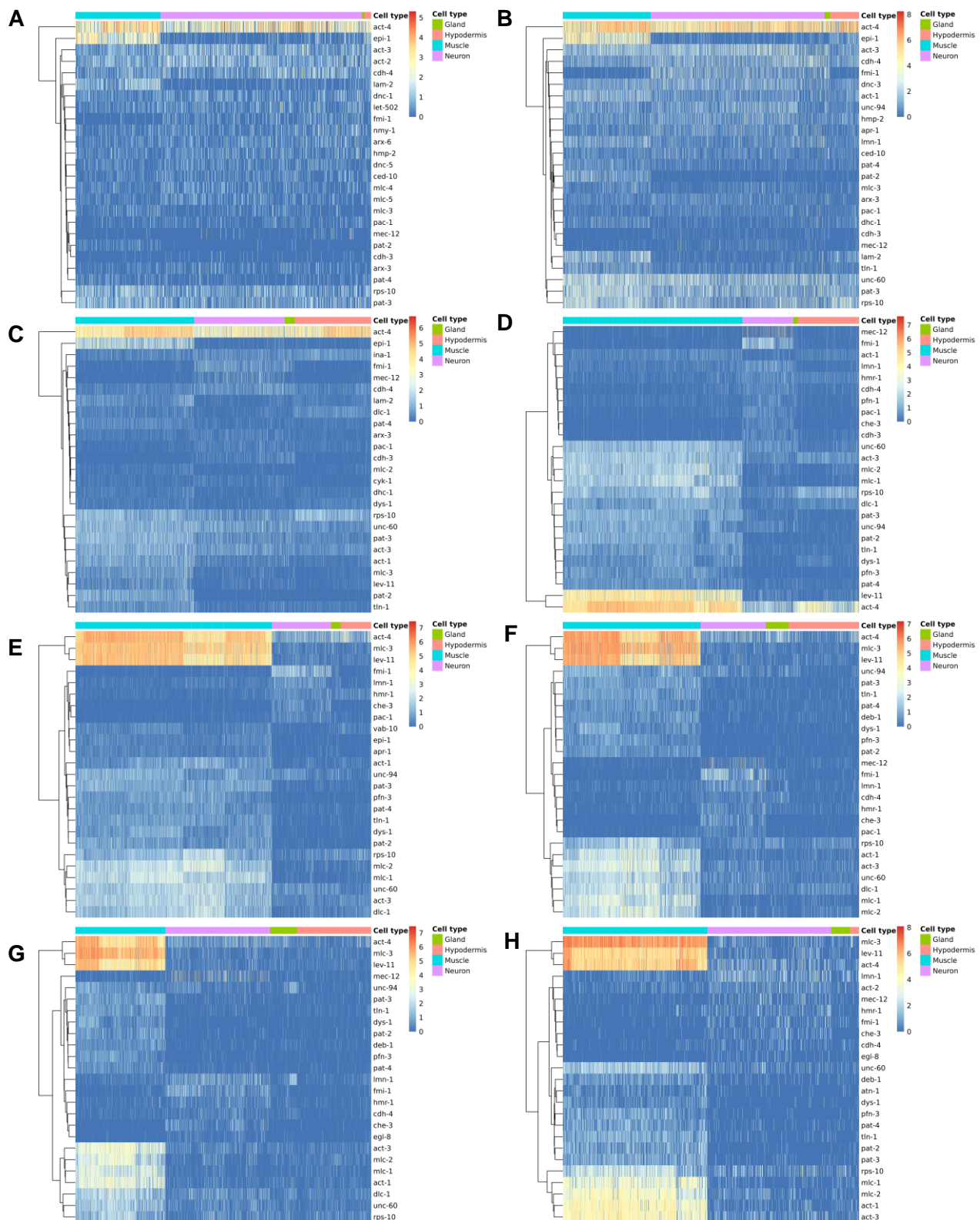
Supplementary Figures

Supplementary Table 1: Proteins of interest and their corresponding genes in *C. elegans*. The information on these cytoskeleton-related proteins and genes were mostly obtained from UniProt and WormBase,

Protein	Gene
Actin	act-1 act-2 act-3 act-4
Non-muscular myosin Myosin 2	nmy-2
Myosin Light Chains	mlc-1, mlc-2 mlc-4 mlc-3 mlc-5
Myosin 1 motor	nmy-1
Arp2/3	arx-1 arx-2 arx-3 arx-4 arx-5 arx-6 arx-7
Formin	cyk-1 daam-1 inft-2 frl-1 fhod-1 exc-6
Cadherin	hmr-1 cdh-3 cdh-4, fmi-1
Talin	tln-1
Vinculin	deb-1
Spectrin	unc-70 sma-1 spc-1
Dishevelled homologs	dsh-2 mig-5
α -catenin	hmp-1 ctn-1
β -catenin	hmp-2 bar-1 jac-1 sys-1 wrm-1

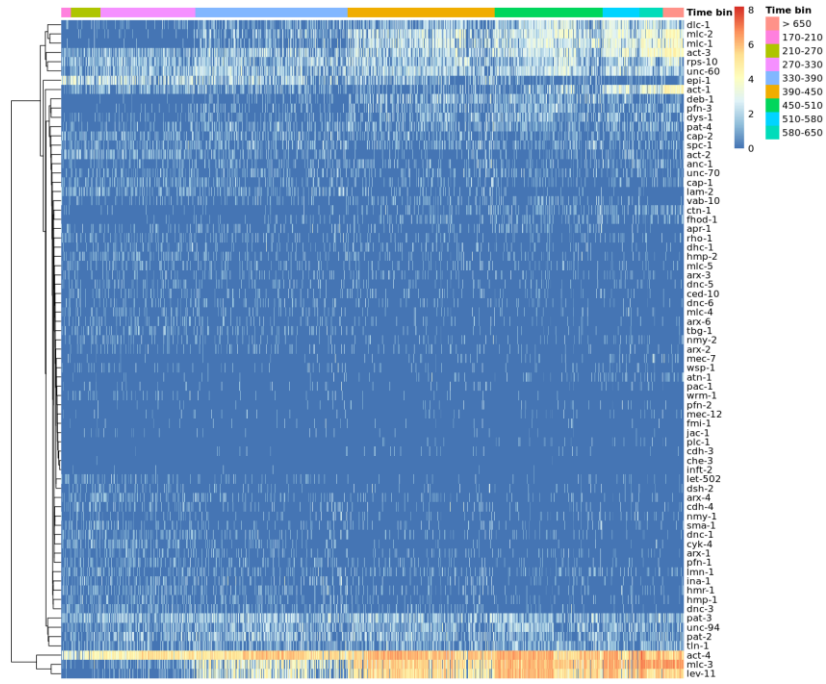
Supplementary Table 1 continued:

Protein	Gene
Dynein	dhc-1 dlc-1 che-3
Dynactin	dnc-1 dnc-2 dnc-3, -4, -5, -6
Dystrophin	dys-1
α - β -integrin	ina-1 pat-2 pat-3 pat-4
ROCK	let-502
Cyk4	cyk-4
CeGAP	pac-1
rhoA	rho-1
Rac1	ced-10
Cdc42	cdc-42
ADF/cofilin	unc-60
Profilin	pfn-1 pfn-2 pfn-3
Tropomyosin	lev-11
CAPZA, CAPZB	cap-1 cap-2
Tropomodulin	unc-94
Keratin	epi-1 lam-2
PLC	plc-1 plc-3 egl-8
WASP & SCAR/WAVE	wve-1 wsp-1
Tubulin	mec-12 mec-7 tbg-1
Plectins	rps-10 vab-10
Filamin	lin-41
α -actinin	atn-1
Plastin	plst-1
APR	apr-1
Nesprin	anc-1
Lamin	lmn-1

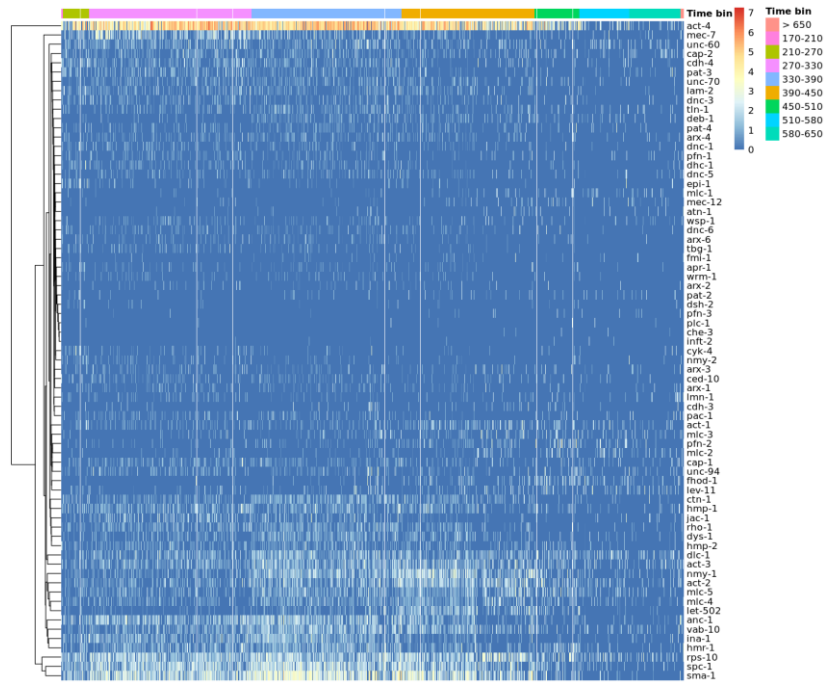


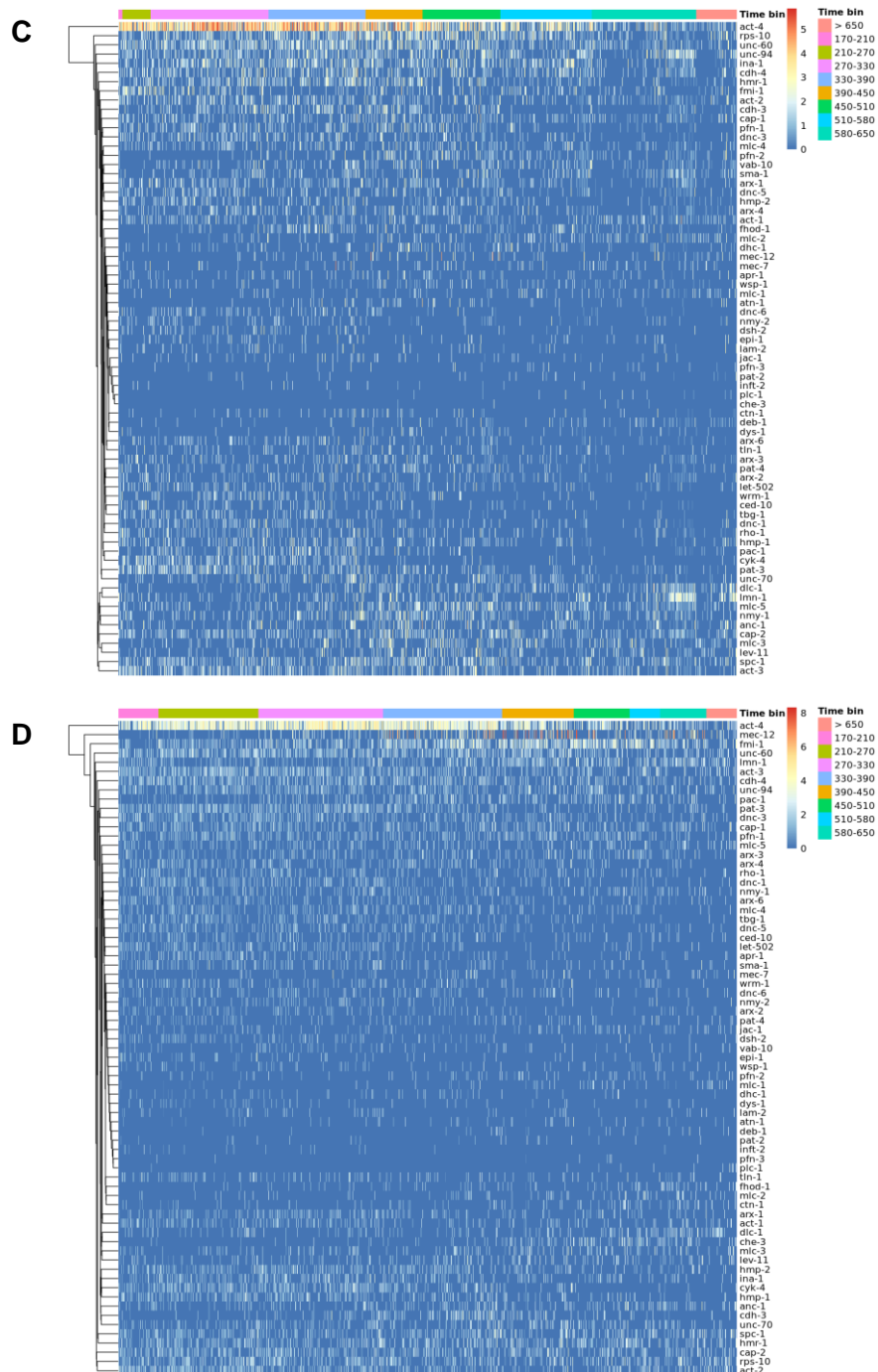
Supplementary Figure 1: Heatmaps of *C. elegans* gene expression profile in different cell types. The heatmaps show the log-transformed normalized expression level for the 25 most differentially expressed cytoskeleton-related genes (lowest significant P-values obtained from the BPSC package) in four different cell types (muscle cells, neuronal cells, gland cells and hypodermal cells) during embryonic time (A) 170-210 min, (B) 210-270 min, (C) 270-330 min, (D) 390-450 min, (E) 450-510 min, (F) 510-580 min, (G) 580-650 min, and (H) >650 min.

A

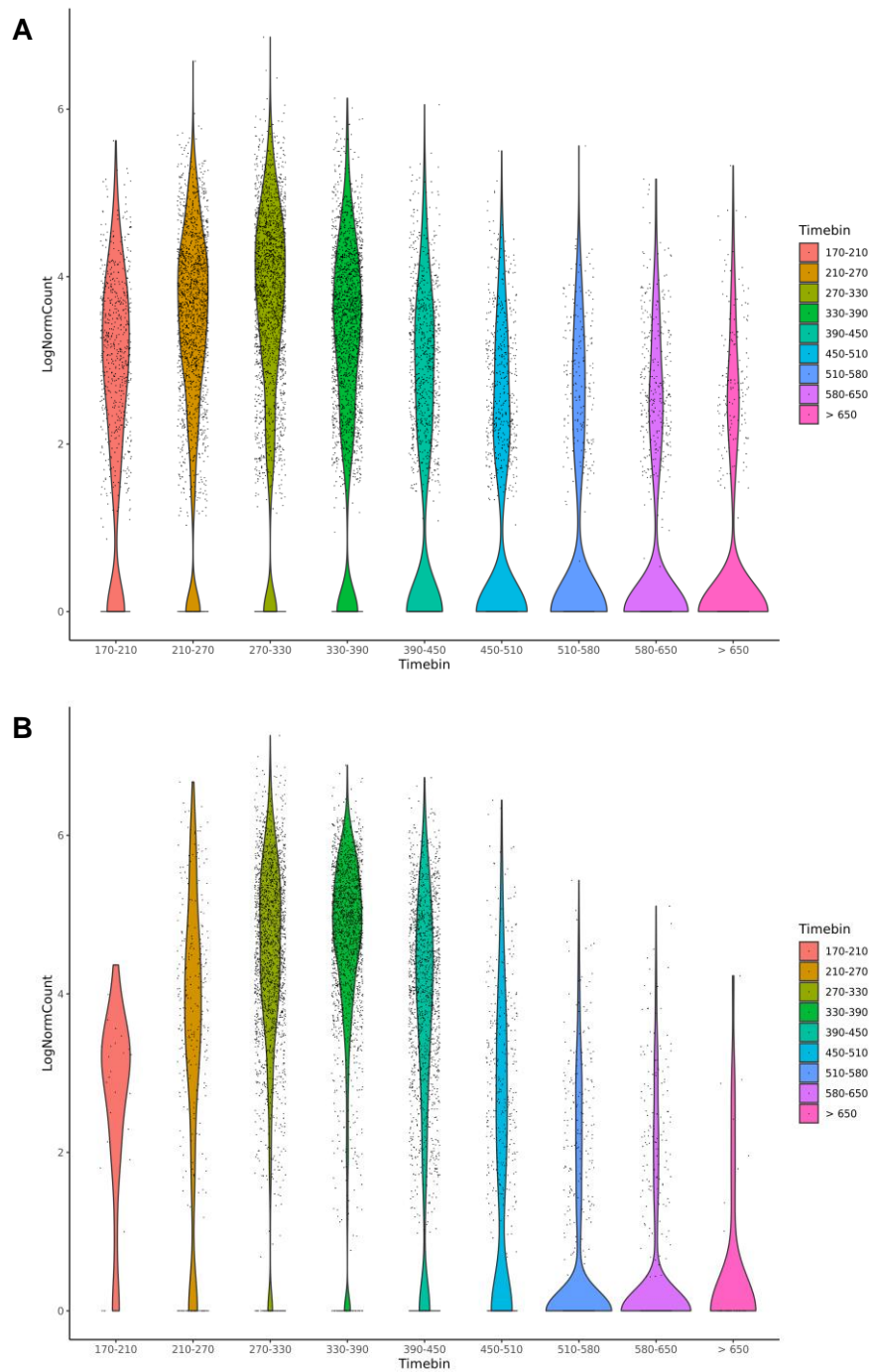


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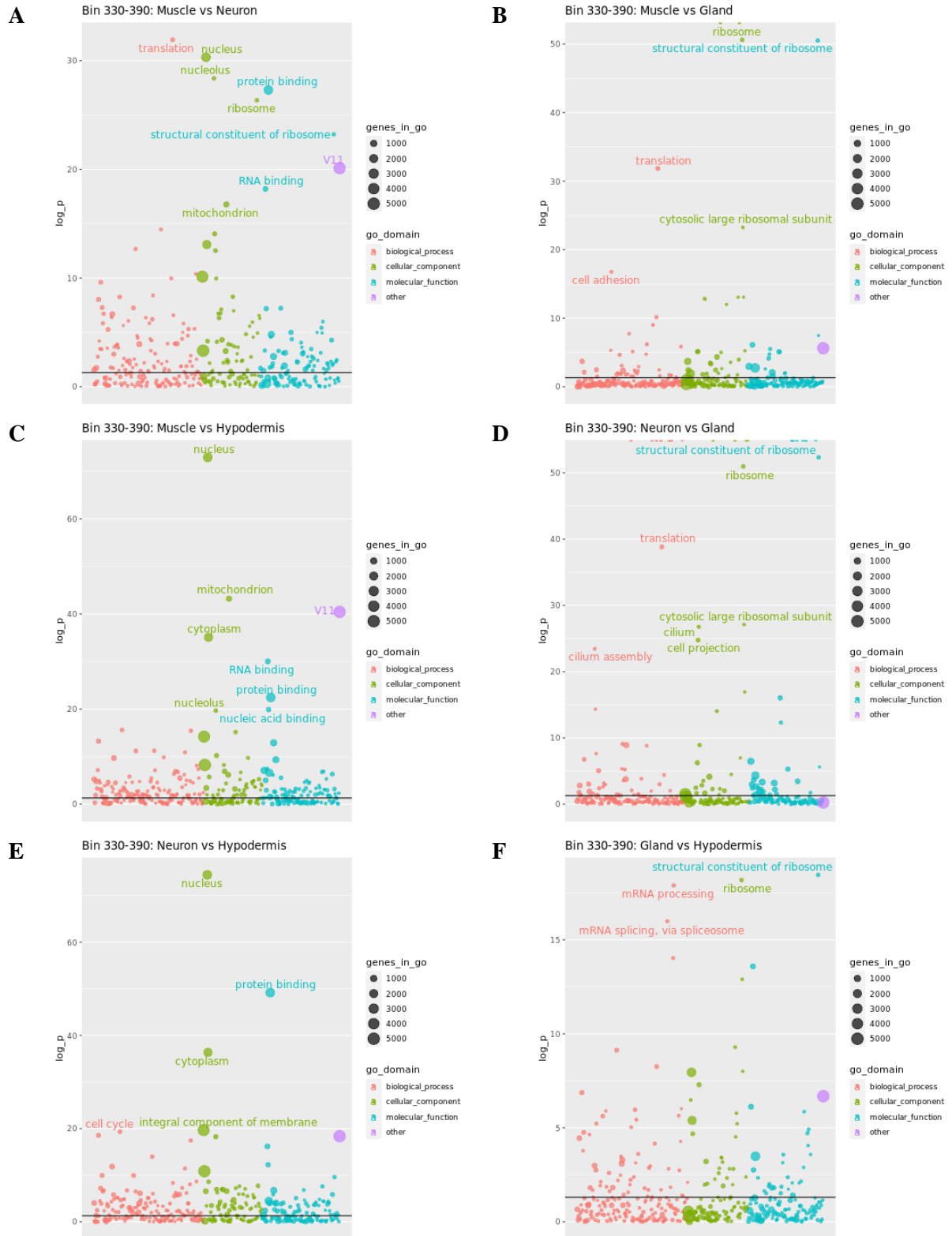




Supplementary Figure 2: Heatmaps of *C. elegans* gene expression profile in different embryo time bins. The heatmaps show the log-transformed normalized expression level for all 88 genes of interest (shown in Supplementary Table 1) in the 9 embryo time bins in (A) muscle cells (B) hypodermis cells (C) gland cells, and (D) neurons.



Supplementary Figure 3: Violin plots of temporal differential expression of the gene *act-4* in *C. elegans*. The heatmaps show the log-transformed normalized expression level of *act-4* in the 9 embryo time bins in (A) neurons, and (B) hypodermis cells.



Supplementary Figure 4: Bubble plot of the comparison between different aggregated cell types. Each dot represents a GO term, the height represents the significance of enrichment (y-axis is the $-\log_{10}(p)$ -value), the size represents the number of genes expressed in those cells, and the color represents the domain to which the GO term belongs.