Supplementary information III. Subcellular distribution of GFP-CFs in 1-cell embryos

Figure III-1. Subcellular distribution of TBP in pathenogenetic embryos (see Figure 4 for images)

TBP (green) was detected on structures in the vicinity of chromosomes in a proportion of MII eggs (MII) but not on chromosomes themselves (red). This staining pattern was generally maintained in anaphase and PN1 embryos (Ana, PN1). TBP moved into both female pronuclei in the PN2/3 stages (PN2/3), and remained in nuclei thereafter (PN4/5, 2-cell). This distribution pattern of TBP was confirmed by protocol A. *, images in higher magnification. The 3rd row contained overlaid images of the top two rows. Bars = 10 µm and 5µm in low and high magnifications, respectively.

Figure III-2. Subcellular distribution of TAF1 in pathenogenetic embryos (see Figure 4 for images)

TAF1 (green) was not detected on chromatin in MII eggs (MII). During anaphase, it appeared on structures in the vicinity of chromosomes but not on chromosomes (red) themselves (Ana). This staining pattern was generally maintained in PN1 embryos (PN1). Most TAF1 moved into both female pronuclei in the PN2 or PN3 stage (PN2/3), and remained in nuclei thereafter (PN4/5, 2-cell). In some embryos, TAF1 was seen partly in and partly out of the nuclei in a process to become integrated. This distribution pattern of TAF1 was confirmed by protocol B. See Figure III-1 for details in labeling.

Figure III-3. Subcellular distribution of TAF4 in pathenogenetic embryos

TAF4 (green, 1st row) was not detected on chromatin in MII eggs or in anaphase and PN1 embryos (MII, Ana, PN1). TAF4 became detected in both female pronuclei in the PN2 or
PN3 stage (PN2/3), and remained in nuclei thereafter (PN4/5, 2-cell). See Figure III-1 for details in labeling.

![Image](image_url)

**Figure III-4. Subcellular distribution of TFIIA in pathenogenetic embryos**

No obvious chromatin TFIIA signal (green, 1st row) was detected in MII eggs or in anaphase and PN1 embryos (MII, Ana, PN1). TFIIA became detected in both female pronuclei in the PN2 or PN3 stage (PN2/3), and remained in nuclei thereafter (PN4/5, 2-cell). See Figure III-1 for details in labeling.
Figure III-5. Subcellular distribution of TFIIB in pathenogenetic embryos (see Figure 4 for images)

TFIIB (green, 1st row) was detected on structures in the vicinity of chromosomes but not on chromosomes themselves (red, 2nd row) in MII eggs (MII). This staining pattern was generally maintained in anaphase and PN1 embryos (Ana, PN1). TFIIB moved into both female pronuclei in the PN2 or PN3 stage (PN2/3), and remained in nuclei thereafter (PN4/5, 2-cell). In some embryos, TFIIB appeared partly in and partly out of the pronuclei, in a process to become integrated. See Figure III-1 for details in labeling.

Figure III-6. Subcellular distribution of Pol II in pathenogenetic embryos

Pol II (green, 1st row) was detected on centrosomes of the spindle but not on chromosomes themselves (red, 2nd row) in MII eggs (MII), and remained negative on chromosomes in anaphase and PN1 (Ana, PN1). Pol II moved into both female pronuclei in the PN2 or PN3 stage (PN2/3), and remained in nuclei thereafter (PN4/5, 2-cell). See Figure III-1 for details in labeling.
Figure III-7. Subcellular distribution of BRF1 in pathenogenetic embryos

No obvious chromatin BRF1 signal was detected in MII eggs (MII). BRF1 (green, 1st row) was detected on structures in the vicinity of chromosomes but not on chromosomes themselves (red) in anaphase and PN1 (Ana, PN1). BRF1 moved into both female pronuclei in the PN2 or PN3 stage (PN2/3), and remained in nuclei thereafter (PN4/5, 2-cell). See Figure III-1 for details in labeling.

Figure III-8. Subcellular distribution of AP2α in pathenogenetic embryos

No obvious AP2α signal (green, 1st row) was detected on chromosomes in MII eggs or
in anaphase and PN1 embryos (MII, Ana, PN1). AP2α became detected in both female pronuclei in the PN2 or PN3 stage (PN2/3), and remained in nuclei thereafter (PN4/5, 2-cell).

See Figure III-1 for details in labeling.

Figure III-9. Subcellular distribution of BRG1 in pathenogenetic embryos (see Figure 4 for images)

No obvious chromatin BRG1 signal was detected in MII eggs or in anaphase and PN1 embryos (MII, Ana, PN1). BRG1 entered both female pronuclei in the PN2 or PN3 stage (PN2/3), and remained in nuclei thereafter (PN4/5, 2-cell). See Figure III-1 for details in labeling.

Figure III-10. Subcellular distribution of SRG3 in pathenogenetic embryos (see Figure 4 for images)

No obvious chromatin SRG3 signal was detected in MII eggs or in anaphase and PN1 embryos (MII, Ana, PN1). SRG3 entered both female pronuclei in the PN2 or PN3 stage (PN2/3), and remained in nuclei thereafter (PN4/5, 2-cell). See Figure III-1 for details in labeling.
Figure III-11. Subcellular distribution of INI1 in pathenogenetic embryos

No obvious chromatin INI1 signal was detected in MII egg, or in anaphase and PN1 embryos (MII, Ana, PN1). INI1 entered both female pronuclei in the PN2 or PN3 stage (PN2/3), and remained in nuclei thereafter (PN4/5, 2-cell). See Figure III-1 for details in labeling.

<table>
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<th>Ana</th>
<th>PN1</th>
<th>PN2/3</th>
<th>PN4/5</th>
<th>2-cell</th>
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</thead>
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<td><img src="image5.png" alt="Image" /></td>
<td><img src="image6.png" alt="Image" /></td>
</tr>
</tbody>
</table>

Figure III-12. Subcellular distribution of YY1 in pathenogenetic embryos

No obvious chromatin YY1 signal (green, 1st row) was detected in MII eggs or in anaphase and PN1 embryos (MII, Ana, PN1). YY1 became detected in both female pronuclei in the PN2 or PN3 stage (PN2/3), and remained in nuclei thereafter (PN4/5, 2-cell). See Figure III-1 for details in labeling.
Figure III-13. Subcellular distribution of HDAC1 in pathenogenetic embryos

No obvious chromatin HDAC1 signal (green, 1st row) was detected in MII eggs or in anaphase and PN1 embryos (MII, Ana, PN1). HDAC1 entered both female pronuclei in the PN2 or PN3 stage (PN2/3), and remained in nuclei thereafter (PN4/5, 2cell). See Figure III-1 for details in labeling.
Figure III-14. Subcellular distribution of HDAC2 in pathogenetic embryos (see Figure 4 for images)

No obvious chromatin HDAC2 signal (green, 1st row) was detected in MII eggs (MII) or in anaphase embryos (Ana). HDAC2 became associated with both female pronuclei in PN1 embryos (PN1), and remained in nuclei thereafter (PN2/3, PN4/5, 2-cell). See Figure III-1 for details in labeling.

Figure III-15. Subcellular distribution of MeCP2 in pathogenetic embryos

MeCP2 (green, 1st row) was enriched in structures in the vicinity of, but not on chromosomes themselves in MII eggs (MII) (red, 2nd row). But no obvious chromatin MeCP2 signal was detected in anaphase and PN1 embryos (Ana, PN1). MeCP2 moved into both female pronuclei in the PN2 or PN3 stage (PN2/3), and remained in nuclei thereafter (PN4/5, 2-cell). See Figure III-1 for details in labeling.
Figure III-16. Subcellular distribution of MBD2 in pathenogenetic embryos

MBD2 (green) was detected prominently on structures in the vicinity of chromosomes but not on chromosomes (red) themselves in MII eggs (MII). This staining pattern was generally maintained in anaphase and PN1 embryos (Ana, PN1). In the PN2 or PN3 stage, MBD2 moved into both female pronuclei (PN2/3), and remained in nuclei thereafter (PN4/5, 2-cell). It is concentrated at the peripheral of the nuclei. See Figure III-1 for details in labeling.

Figure III-17. Subcellular distribution of HP1α in pathenogenetic embryos
HP1α (green, 1st row) was detected on chromosomes of MII eggs (MII) and early 1-cell embryos. It was on both female pronuclei in the PN1 stage (PN1) and remained in nuclei thereafter (PN2/3, PN4/5, 2-cell). See Figure III-1 for details in labeling.

Figure III-18. Subcellular distribution of HP1β in pathenogenetic embryos (see Figure 4 for images)

HP1β (green) was detected on selective areas of and structures apposed to chromosomes (red) in MII eggs. During anaphase and PN1, HP1β was detected on both chromosomes and structures in the vicinity of chromosomes. From PN2 onwards, HP1β was detected in nuclei of all stages examined (PN2/3, PN4/5, 2-cell). See Figure III-1 for details in labeling.

Figure III-19. Subcellular distribution of TOPOIIα in pathenogenetic embryos

TOPOIIα (green) was detected on chromosomes (red) in MII eggs (MII) and in pronuclei/nuclei of all stages (Ana, PN1, PN2/3, PN4/5, 2-cell). It was also detected on structures in the vicinity of chromosomes in anaphase and PN1 oocytes. In pronuclei/nuclei, TOPOIIα was not evenly distributed, appearing more concentrated in some areas of the nuclei. See Figure III-1 for details in labeling.
TOPOIIβ (green, 1st row) was detected on some areas of chromosomes in MII eggs (MII). This distribution pattern of TOPOIIβ was generally maintained in anaphase and PN1 (Ana, PN1). TOPOIIβ entered both female pronuclei in the PN2 or PN3 stage (PN2/3), and remained in nuclei thereafter (PN4/5, 2-cell). See Figure III-1 for details in labeling.

AcH4 (green, 1st row) was detected on chromosomes of MII eggs (MII) and early 1-cell embryos. It became associated with both female pronuclei in the PN1 stage (PN1) and
remained in nuclei thereafter (PN2/3, PN4/5, 2-cell). This distribution pattern of AcH4 was confirmed by protocol A. See Figure III-1 for details in labeling.

End