

Table S1. Percentage of cells undergoing radial intercalation in wild-type, *N-cad*^{p79emcf} mutant and *N-cad* morphant embryos

		Lateral (dorsal) %				Medial %					
		Apical	Basal	Both	Neither	Embryo (cell)	Apical	Basal	Both	Neither	Embryo (cell)
Wild type	Plate (tb-1s)	30	44	5	21	6 (171)	33	42	15	10	6 (110)
	Keel (4-5s)	22	38	14	26	6 (172)	29	35	27	9	6 (101)
	Rod (6-10s)	21	17	62	0	11 (61)	18	5	77	0	11 (60)
	Late rod (12-13s)	3	0	97	0	3 (35)	17	11	72	0	3 (18)
<i>N-cad</i> /MO	Plate (MO; tb-1s)	37	37	4	22	6 (196)	28	33	39*	0	6 (36)
	Keel (<i>N-cad</i> ; 4-5s)	29	39	11	21	6 (133)	28	15	57 [§]	0	6 (47)
	Keel (MO; 4-5s)	23	27	44	6	5 (100)	40	19	41 [¶]	0	5 (32)
	Rod (<i>N-cad</i> ; 6-10s)	46	28	24	2	7 (46)	21	4	75	0	7 (67)
	Rod (MO; 6-10s)	48	9	41	2	8 (85)	29	6	64	1	8 (66)
	Late rod (MO; 12-13s)	36	27	35 [‡]	2	4 (45)	22	4	74 [†]	0	4 (51)

Comparisons between the number of cells undergoing intercalation were made using the χ^2 -test. (Note: the analysis was performed on cell counts whereas the data shown above are presented as percentages.) Comparisons were statistically significant unless noted otherwise.

* $\chi^2=9.05$, $P<0.05$ when compared with wild-type embryos in the medial region at the neural plate (tb-1s) stage.

[†] $\chi^2=0.03$, $P>0.05$ (not significant) when compared with wild-type embryos in the medial region at the late rod (12-13s) stage.

[‡] $\chi^2=31.80$, $P<0.05$ when compared with wild-type embryos in the lateral (dorsal) region at the late rod (12-13s) stage.

[§] $\chi^2=13.09$, $P<0.05$ when compared with wild-type embryos in the medial region at the neural keel (4-5s) stage.

[¶] $\chi^2=2.31$, $P>0.05$ (not significant) when compared with wild-type embryos in the medial region at the neural keel (4-5s) stage.

Table S2. Cell measurements in wild-type, *N-cad*^{p79emcf} mutant and *N-cad* morphant embryos

		Angle (°)			Length (μ m)			LWR			Embryo (cell)
		Ventral	Medial	Lateral/dorsal	Ventral	Medial	Lateral/dorsal	Ventral	Medial	Lateral/dorsal	
Wild type	Plate (tb-1s)	48 \pm 15	57 \pm 5.8	78 \pm 6.5	23 \pm 3	28 \pm 2.7	24 \pm 3.8	3.2 \pm 0.3	4.2 \pm 0.6	3.5 \pm 0.6	5 (52)
	Keel (4-5s)	11 \pm 5.4	34 \pm 6.6	25 \pm 3.1*	30 \pm 4.7	37 \pm 2.9	41 \pm 2.7	5 \pm 0.8	7 \pm 0.7	7.6 \pm 0.6 [†]	7 (43)
	Rod (6-7s)	17 \pm 3.8	19 \pm 5.5	28 \pm 3.5	39 \pm 6	44 \pm 4.5	35 \pm 4.2	6.6 \pm 1.4	7.6 \pm 0.6	6 \pm 0.7	4 (30)
<i>N-cad</i>	Plate (tb-1s)	–	–	–	–	–	–	–	–	–	–
	Keel (4-5s)	8.4 \pm 2.4	44 \pm 12	65 \pm 8.5**	29 \pm 2.6	35 \pm 2.5	34 \pm 4	5 \pm 1	6.3 \pm 1.3	4.4 \pm 0.6 ^{††}	5 (40)
	Rod (6-7s)	18 \pm 5.7	45 \pm 6.9	67 \pm 12.4	24 \pm 2.5	36 \pm 5.8	32 \pm 4.1	4.3 \pm 0.6 [¶]	5.2 \pm 1.2	4.1 \pm 0.9 ^{‡‡}	4 (27)
MO	Plate (tb-1s)	19 \pm 5.2 [‡]	50 \pm 7.6	76 \pm 4.2	25 \pm 2.7	27 \pm 2.5	26 \pm 2	4.3 \pm 0.7 [§]	4 \pm 0.6	3.6 \pm 0.3	9 (65)
	Keel (4-5s)	5.2 \pm 1.8 ^{§§}	53 \pm 6.4	63 \pm 8.8**	34 \pm 8.1	33 \pm 3.6	36 \pm 3.5	5.1 \pm 1.2	4.8 \pm 0.8	4.9 \pm 0.7 ^{††}	4 (77)
	Rod (6-7s)	23 \pm 6	43 \pm 8.3	69 \pm 4.7	25 \pm 1.9	38 \pm 4.6	33 \pm 2.7	4.8 \pm 0.4	5.9 \pm 0.9	5 \pm 0.6	5 (31)

ANOVA was used to analyze the cell measurements. A Tukey post-hoc test was used to distinguish significant pair-wise differences between averages. Comparisons were statistically significant unless noted otherwise. Values are shown as mean \pm s.e.m.

* $F_{2,40}=15.39$, $P<0.05$ when comparing cell angle with wild-type embryos in the ventral region of the neural plate (tb-1s) stage.

[†] $F_{2,52}=31.69$, $P<0.05$ when comparing cell LWR with wild-type embryos in the dorsal region of the neural plate (tb-1s) stage.

[‡] $F_{1,15}=11.45$, $P<0.05$ when comparing cell angle with wild-type embryos in the ventral region of the neural plate (tb-1s) stage.

[§] $P>0.05$ (not significant) when comparing cell LWR with wild-type embryos in the ventral region of the neural plate (tb-1s) stage.

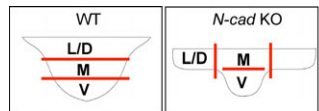
[¶] $F_{2,29}=4.88$, $P<0.05$ when comparing cell LWR with wild-type embryos in the ventral region of the neural rod (6-7s) stage.

** $F_{2,88}=33.45$, $P<0.05$ when comparing cell angle with wild-type embryos in the dorsal region of the neural keel (4-5s) stage.

^{††} $F_{2,88}=17.60$, $P<0.05$ when comparing cell LWR with wild-type embryos in the dorsal region of the neural keel (4-5s) stage.

^{‡‡} $F_{2,25}=3.29$, $P<0.05$ when comparing cell LWR with wild-type embryos in the dorsal region of the neural rod (6-7s) stage.

^{§§} $P>0.05$ (not significant) when comparing cell angle with wild-type embryos in the ventral region of the neural keel (4-5s) stage.



D: Dorsal
L: Lateral
M: Medial
V: Ventral