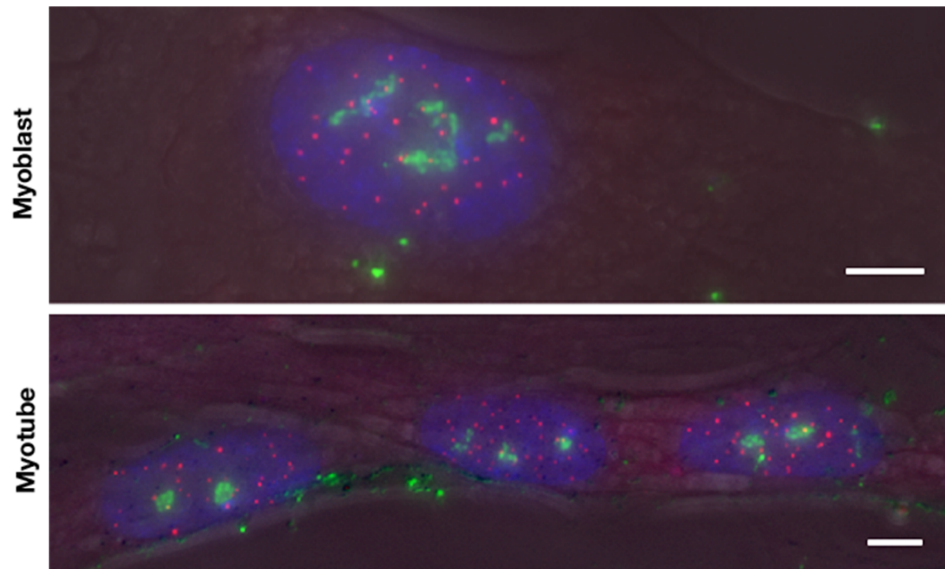


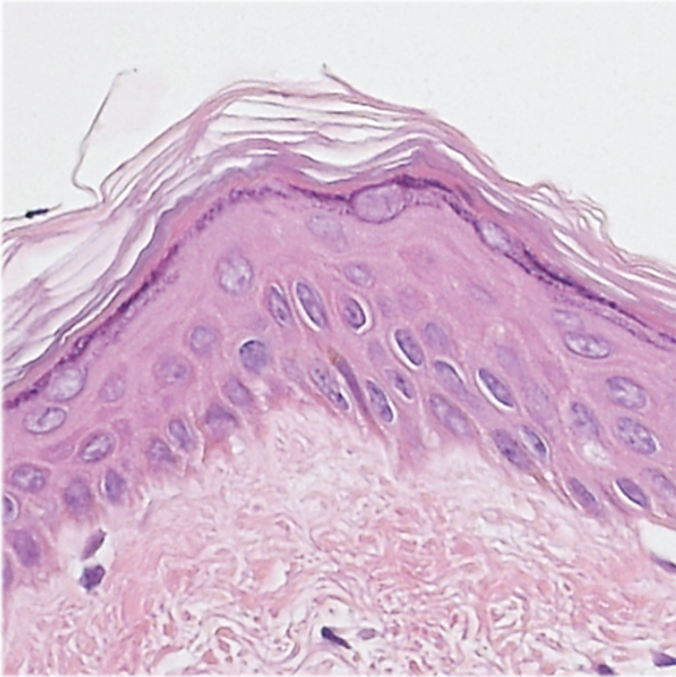
Supplementary Materials  
*Molecular Biology of the Cell*  
Rodrigues *et al.*

**Supplemental Materials:**

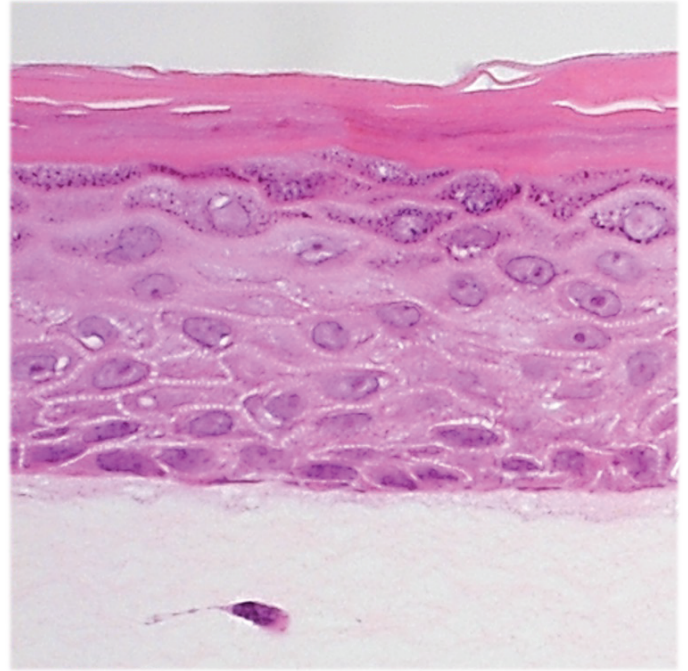


**Supplemental Figure 1.** Differentiated myotubes are those form multi-nuclei tubes. Nucleoli are immunolabeled with anti-Nopp140 antibody (green signals), and centromeres are immunolabeled with anti-CENPA antibody (Red). Only cells in the myotubes were counted as terminally differentiated cells. Bar=0.5 mm

**Human skin**



**3D Human skin equivalent**



**Supplemental Figure 2.** Representative images of H&E stained normal skin (left) and a 3D human skin equivalent (right) derived from primary human keratinocytes.

Entrez ID	Gene Symbol	Gene Name	Myoblast:Myotube fold difference (log2 value)	p-value
79019	CENPM	centromere protein M	-3.16	2.02E-22
55355	HJURP	Holliday junction recognition protein	-3.07	1.76E-21
1058	CENPA	Centromere protein A	-2.45	4.02E-20
387103	CENPW	Centromere protein W	-2.35	3.65E-18
55839	CENPN	Centromere protein N	-2.31	7.67E-19
11339	OIP5	Opa interacting factor 5	-2.14	5.05E-18
1062	CENPE	Centromere protein E	-1.96	7.83E-18
2305	FOXM1	Forkhead box M1	-1.87	1.48E-15
55320	MIS18BP1	MIS18 binding protein 1	-1.83	1.03E-16
1063	CENPF	Centromere protein F, 350/400 kDA	-1.77	1.31E-13
64105	CENPK	Centromere protein K	-1.54	4.85E-15
1870	E2F2	E2F transcription factor 2	-1.10	
3619	INCENP	Inner centromere protein antigens	-1.10	1.68E-12
54069	MIS18A	MIS18 kinetochore protein homolog A	-1.09	2.28E-12
201161	CENPV	Centromere protein V	-1.07	2.13E-11

**Supplemental Table 1.** Centromere-related genes significantly downregulated with normal myogenesis (from GSE50415).

Entrez ID	Gene Symbol	Gene Name	RD:Myotube fold difference (log2 value)	p-value
1870	E2F2	E2F transcription factor 2	-3.51	1.33E-28
55355	HJURP	Holliday junction recognition protein	-3.46	5.68E-27
79019	CENPM	centromere protein M	-3.11	2.22E-26
11339	OIP5	Opa interacting factor 5	-2.71	
1058	CENPA	Centromere protein A	-2.54	6.08E-24
55839	CENPN	Centromere protein N	-2.35	1.08E-21
1063	CENPF	Centromere protein F, 350/400 kDA	-2.20	2.16E-18
2305	FOXM1	Forkhead box M1	-2.11	3.51E-19
1062	CENPE	Centromere protein E	-1.88	1.07E-20
201161	CENPV	Centromere protein V	-1.74	2.81E-17

**Supplemental Table 2.** Centromere-related genes significantly upregulated in RD rhabdomyosarcoma cells compared to normal myotubes (from GSE50415 and GSE35491).