	NA1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
TnC											Ac-asp	thr	gln	gln	ala	glu	ala	arg	SER	tyr	leu	SER
DLC	X-pro	lys	lys	ala	lys	arg	arg	ala	ala	ala	glu	gly	gly	ser	ser	asn	val	phe	SER	met	PHE	asp
ALC																				Ac-ser	PHE	SER

	23	24	25	A1	2	3	4*	5	6	7	8*	9	10	11*	ab1	2	3	4	5	6	7	8*	9
TnC	glu	glu	met	ILE	ALA	GLU	PHE	LYS	ala	ALA	PHE	asp	met	phe	ASP	ala	asp	GLY	gly	GLY	asp	ILE	ser
DLC	gln	thr	GLN	ILE	gln	GLU	PHE	LYS	GLU	ALA	PHE	thr	val	ile	ASP	gln	asn	arg	asn	GLY	ile	ILE	asp
ALC	ala	asp	GLN	ILE	ALA	GLU	PHE	LYS	GLU	ALA	PHE	leu	leu	tyr	ASP	arg	thr	GLY	asp	ser	lys	ILE	thr

	B1	2	3	4*	5	6	7*	8*	9	10*	11*	bc1	2*	*	3	4*	5*	C1	2	3	4	5*	6
TnC	val	lys	glu	LEU	GLY	thr	VAL	met	ARG	met	LEU	GLY	gln	—	thr	PRO	THR	lys	GLU	GLU	LEU	ASP	ALA
DLC	lys	glu	asp	LEU	arg	ASP	thr	phe	ala	ALA	MET	GLY	arg	leu	ASN	val	lys	glu	GLU	ASP	LEU	ASP	ALA
ALC	leu	ser	gln	val	GLY	ASP	VAL	leu	ARG	ALA	LEU	GLY	thr	—	ASN	PRO	THR	asn	ala	GLU	val	LYS	LYS
CBP										Ac-ALA	MET	thr	glu	—	leu	leu	asn	ala	GLU	ASP	ile	LYS	LYS

	7*	8*		9	10	11	cd1	2	3	4	5	6	7		8*	9	D1	2	3	4*	5	6	7*
TnC	ile	ILE	—	glu	glu	val	ASP	GLU	asp	gly	SER	GLY	thr	—	ILE	ASP	PHE	GLU	glu	PHE	LEU	val	MET
DLC	met	—	—	—	—	—	—	lys	glu	ALA	SER	GLY	pro	—	ILE	asn	PHE	thr	val	PHE	LEU	thr	MET
ALC	val	leu	gly	asn	pro	ser	ASP	GLU	gln	met	asn	ala	lys	lys	ILE	glu	PHE	GLU	gln	PHE	LEU	pro	MET
CBP	ala	ILE	—	gly	ala	phe	—	ala	ala	ALA	glu	ser	—	—	phe	ASP	his	lys	lys	PHE	phe	gln	MET

	8*	9	10	11	12	de1	2	3	4	5	6	7	8	E1	2	3	4*	5	6	7	8*	9	10
Tnc	MET	val	arg	gln	met	LYS	glu	asp	ala	LYS	gly	LYS	SER	GLU	GLU	glu	leu	ala	GLU	cys	PHE	ARG	ILE
DLC	MET	phe	gly	glu	—	LYS	leu	lys	LYS	gly	ala	asn	pro	GLU	asp	val	ile	thr	gly	ala	PHE	lys	VAL
ALC	leu	glu	ala	ile	—	ser	asn	asn	LYS	asp	gln	gly	thr	tyr	GLU	ASP	phe	val	GLU	gly	leu	ARG	VAL
CBP	val	—	—	—	—	—	—	gly	leu	LYS	lys	LYS	SER	thr	GLU	ASP	val	lys	lys	val	PHE	his	ILE

	11*	ef1	2	3	4	5	6	7	8*	9	F1	2	3	4*	5	6	7*	8*	9	10	11*		
TnC	PHE	ASP	arg	asn	ala	ASP	GLY	tyr	ILE	asp	ala	GLU	GLU	LEU	ala	GLU	ILE	phe	arg	ala	ser	—	—
DLC	LEU	ASP	pro	GLU	GLY	lys	GLY	thr	ILE	lys	lys	gln	phe	LEU	glu	GLU	leu	LEU	thr	THR	gln	—	—
ALC	PHE	ASP	LYS	GLU	GLY	ASP	thr	val	gly	met	gly	ala	GLU	LEU	arg	his	val	LEU	ala	THR	leu	—	—
CBP	LEU	ASP	LYS	asp	lys	ser	GLY	phe	ILE	glu	glu	GLU	GLU	LEU	gly	phe	ILE	LEU	lys	gly	phe	ser	pro

		fg1	2	3	4*	5	G1	2	3	4	5	6	7*	8*	9	10	11	gh1	2	3	4	5	6
TnC	—	GLY	GLU	his	val	thr	asp	GLU	GLU	ILE	GLU	ser	LEU	MET	lys	asp	GLY	ASP	LYS	asn	asn	ASP	GLY
DLC	—	cys	asp	arg	phe	SER	gln	GLU	GLU	ILE	LYS	asn	met	trp	ALA	ALA	phe	pro	pro	ASP	val	gly	GLY
ALC	—	GLY	GLU	lys	met	lys	glu	GLU	GLU	val	GLU	ala	LEU	MET	—	ALA	GLY	gln	glu	ASP	ser	asn	GLY
CBP	asp	ala	arg	asp	leu	SER	val	lys	GLU	thr	LYS	thr	LEU	MET	ALA	ALA	GLY	ASP	LYS	ASP	gly	ASP	GLY

	7	8*	9	H1	2	3	4*	5	6	7*	8*	9	10	11	12						
TnC	arg	ILE	ASP	phe	ASP	GLU	PHE	leu	LYS	met	met	glu	gly	val	gln-	OH					
DLC	asn	val	ASP	TYR	lys	asn	ile	cys	tyr	val	ILE	thr	his	gly	asp	ala	lys	asp	glu	gln-	OH
ALC	cys	ILE	asn	TYR	glu	ala	PHE	val	LYS	his	ILE	met	ser	ile-	OH						
CBP	lys	ILE	gly	ala	ASP	GLU	PHE	ser	thr	leu	val	ser	glu	ser-	OH						

Fig. 1 Alignment of the complete amino acid sequences of rabbit white skeletal muscle troponin C (TnC), myosin DTNB light chain (DLC), myosin alkali light chain (ALC) and Ca^{2+}-binding parvalbumin (CBP). Amino acid residues are numbered in accordance with the predicted three-dimensional structure of TnC: helices are denoted A to H, from the amino to the carboxyl termini; interhelical loops are called ab, bc, and so on; residues preceding helix A are designated NA. Residues identical in two or more proteins are in capital letters, and those presumed to be involved in Ca^{2+} binding are underlined. Asterisks indicate residues predicted to form the hydrophobic core of TnC.

systems? What differences cause TnC to bind to troponin I and troponin T in the thin filaments, whereas ALC and DLC bind to myosin heavy chains in the thick filaments? These questions bring to mind Laki's proposal[30], that myosin could be considered as a complex of actin and tropomyosin (troponin had not then been discovered).

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1 Lehman, W., and Szent-Györgyi, A. G., *J. gen. Physiol.*, **66**, 1–30 (1975).
2 Weber, A., and Murray, J. M., *Physiol. Rev.*, **53**, 612–673 (1973).
3 Szent-Györgyi, A. G., *Biophys. J.*, **15**, 707–723 (1975).
4 Weeds, A. G., *Nature*, **223**, 1362–1364 (1969).
5 Weeds, A. G., and Lowey, S., *J. molec. Biol.*, **61**, 701–725 (1971).
6 Werber, M. M., Gaffin, S. L., and Oplatka, A., *J. mechanochem. cell. Motil.*, **1**, 91–96 (1972).
7 Gaffin, S. L., and Oplatka, A., *J. Biochem.*, **75**, 277–281 (1974).
8 Werber, M. M., and Oplatka, A., *Biochem. biophys. Res. Commun.*, **57**, 823–830 (1974).
9 Huxley, H. E., *Cold Spring Harb. Symp. quant. Biol.*, **37**, 361–376 (1972).
10 Morimoto, K., and Harrington, W. F., *J. molec. Biol.*, **88**, 693–709 (1974).
11 Balint, M., Sreter, F. A., Wolf, I., Nagy, B., and Gergely, J., *J. biol. Chem.*, **250**, 6168–6177 (1975).
12 Potter, J. D., *Fedn Proc.*, **34**, 671 (1975).
13 Kendrick-Jones, J., Szentkiralyi, E. M., and Szent-Györgyi, A. G., *Cold Spring Harb. Symp. quant. Biol.*, **37**, 47–53 (1972).
14 Szent-Györgyi, A. G., Szentkiralyi, E. M., and Kendrick-Jones, J., *J. molec. Biol.*, **74**, 179–203 (1973).
15 Kendrick-Jones, J., *Nature*, **249**, 631–634 (1974).
16 Collins, J. H., Potter, J. D., Horn, M. J., Wilshire, G., and Jackman, N., *FEBS Lett.*, **36**, 268–272 (1973); in *Calcium Binding Proteins* (edit. by Drabikowski, W., Strzelecka-Golaszewska, H., and Carafoli, E.), 51–64 (Elsevier, Amsterdam, 1974).
17 Collins, J. H., *Biochem. biophys. Res. Commun.*, **65**, 604–610 (1975).
18 Collins, J. H., and Elzinga, M., *J. biol. Chem.*, **250**, 5906–5914 (1975).
19 Collins, J. H., *Biochem. biophys. Res. Commun.*, **58**, 301–308 (1974).
20 Weeds, A. G., and McLachlan, A. D., *Nature*, **252**, 646–649 (1974).
21 Tufty, R. M., and Kretsinger, R. H., *Science*, **187**, 167–169 (1975).
22 Barker, W. C., and Dayhoff, M. O., *Biophys. J.*, **15**, 121a (1975).
23 Kretsinger, R. H., and Barry, C. D., *Biochim. biophys. Acta*, **405**, 40–52 (1975).
24 Pechère, J.-F., *et al.*, in *Calcium Transport in Secretion and Contraction* (edit. by Carafoli, E., Clementi, F., Drabikowski, W., and Margreth, A.) (North Holland, Amsterdam, in the press).
25 Collins, J. H., in *Calcium in Biological Systems* (Cambridge University Press, in the press).
26 Kretsinger, R. H., and Nockolds, C. E., *J. biol. Chem.*, **248**, 3313–3326 (1973).
27 Frank, G., and Weeds, A. G., *Eur. J. Biochem.*, **44**, 317–334 (1974).
28 Enfield, D. L., Ericson, L. H., Blum, H. E., Fischer, E. H., and Neurath, H., *Proc. natn. Acad. Sci. U.S.A.*, **72**, 1309–1313 (1975).
29 Perrie, W. T., Smillie, L. B., and Perry, S. V., *Biochem. J.*, **135**, 151–164 (1973).
30 Laki, K., *J. cell. comp. Physiol.*, **49**, 249–265 (1957).

Erratum

In the article "Entropy production in black holes" by W. Kundt (*Nature*, **259**, 30; 1976) the second paragraph should read:

To begin with, it must be remembered that in 'normal' conditions, matter has an entropy per particle $s \sim 1$ ($s = SN^{-1}k^{-1}$ where N = particle number): s varies between $\sim T/T_F \lesssim 1$ (for temperatures T below the Fermi temperature T_F) and $\lesssim 90$ (for dispersed hydrogen of critical cosmological density at $\gtrsim 10^8$ K); $s \sim 4$ for an extreme relativistic ideal gas . . . S_{bh} is 10^{19} $(M/M_\odot)$ times larger than S at formation.

The second s^a in line 6 and s^a in line 15 of paragraph 4 should read $s^a{}_{;a}$, the divergence of s^a.