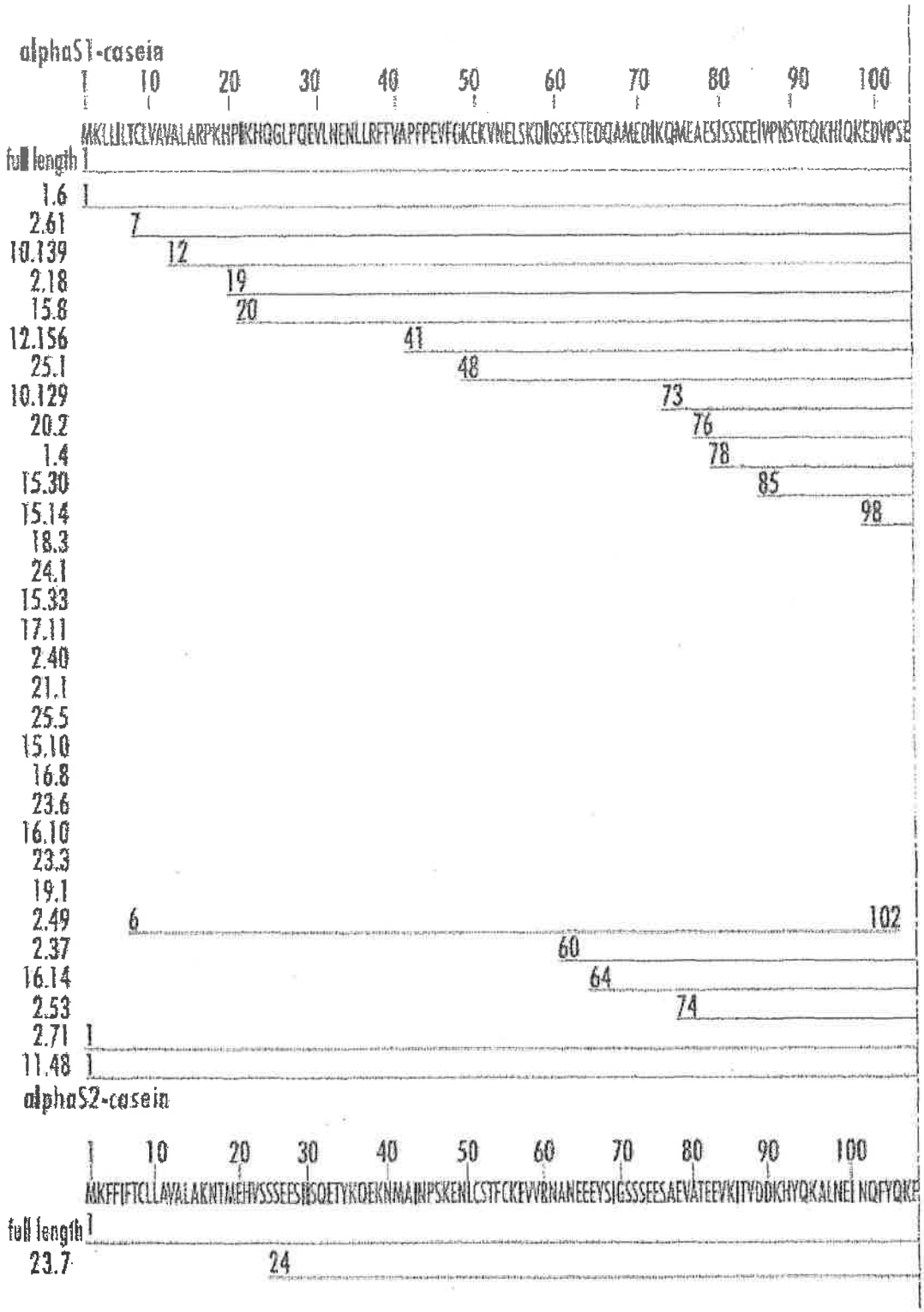

alphaS1-casein
full length
1.6
2.61
10.139
2.18
15.8
12.156
25.1
10.129
20.2
1.4
15.30
15.14
18.3
24.1
15.33
17.11
2.40
21.1
25.5
15.10
16.8
23.6
16.10
23.3
19.1
2.49
2.37
16.14
2.53
2.71
11.48
alphaS2-casein
full length
23.7
Matchline to Figure 1A continued

Fig. 1A

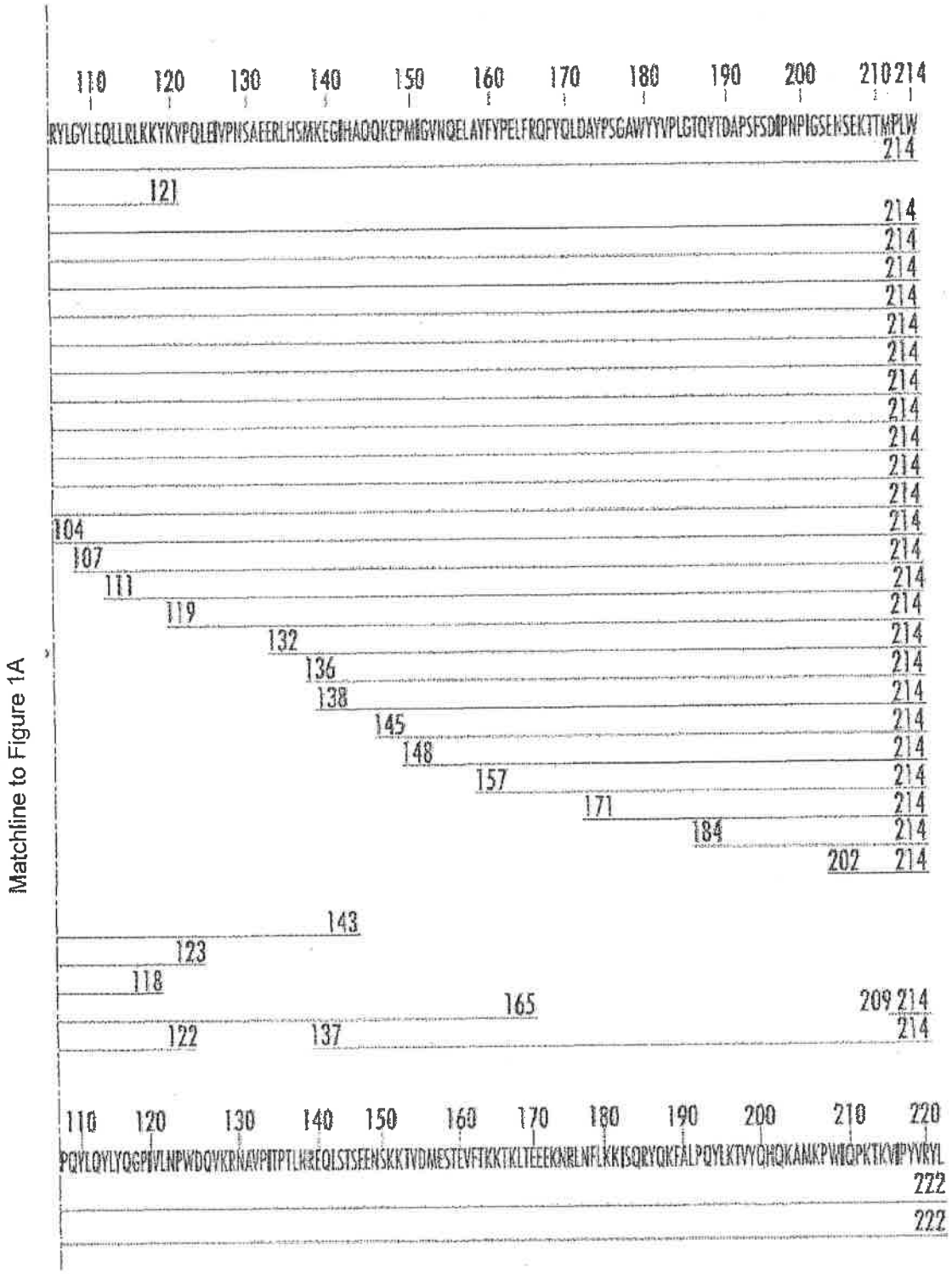


Fig. 1A
continued

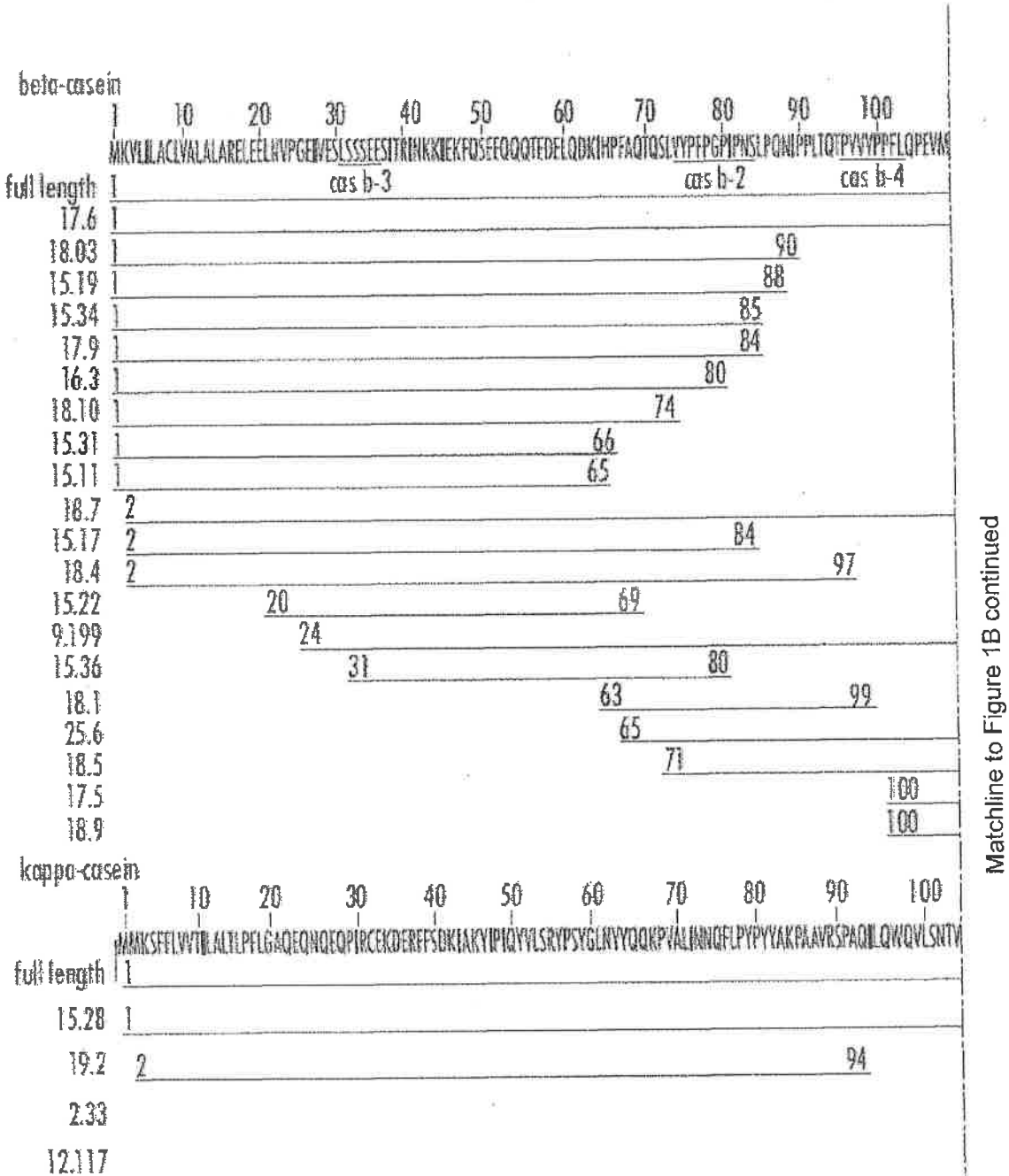

beta-casein
full length
17.6
18.03
15.19
15.34
17.9
16.3
18.10
15.31
15.11
18.7
15.17
18.4
15.22
9.199
15.36
18.1
25.6
18.5
17.5
18.9
kappa-casein
full length
15.28
19.2
2.33
12.117
cas b-3
cas b-2
cas b-4
Matchline to Figure 1B continued

Fig. 1B

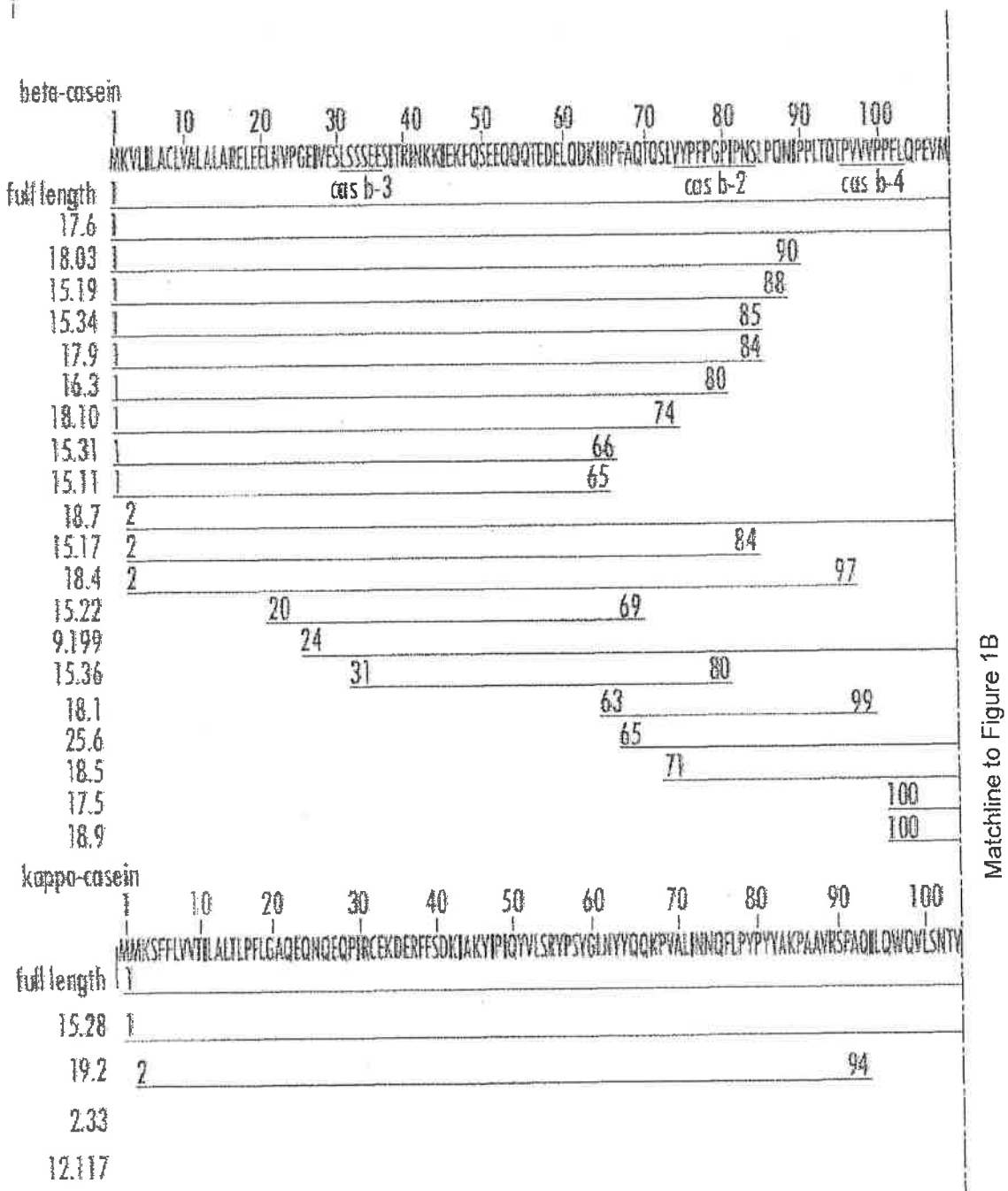


Fig. 1B
continued

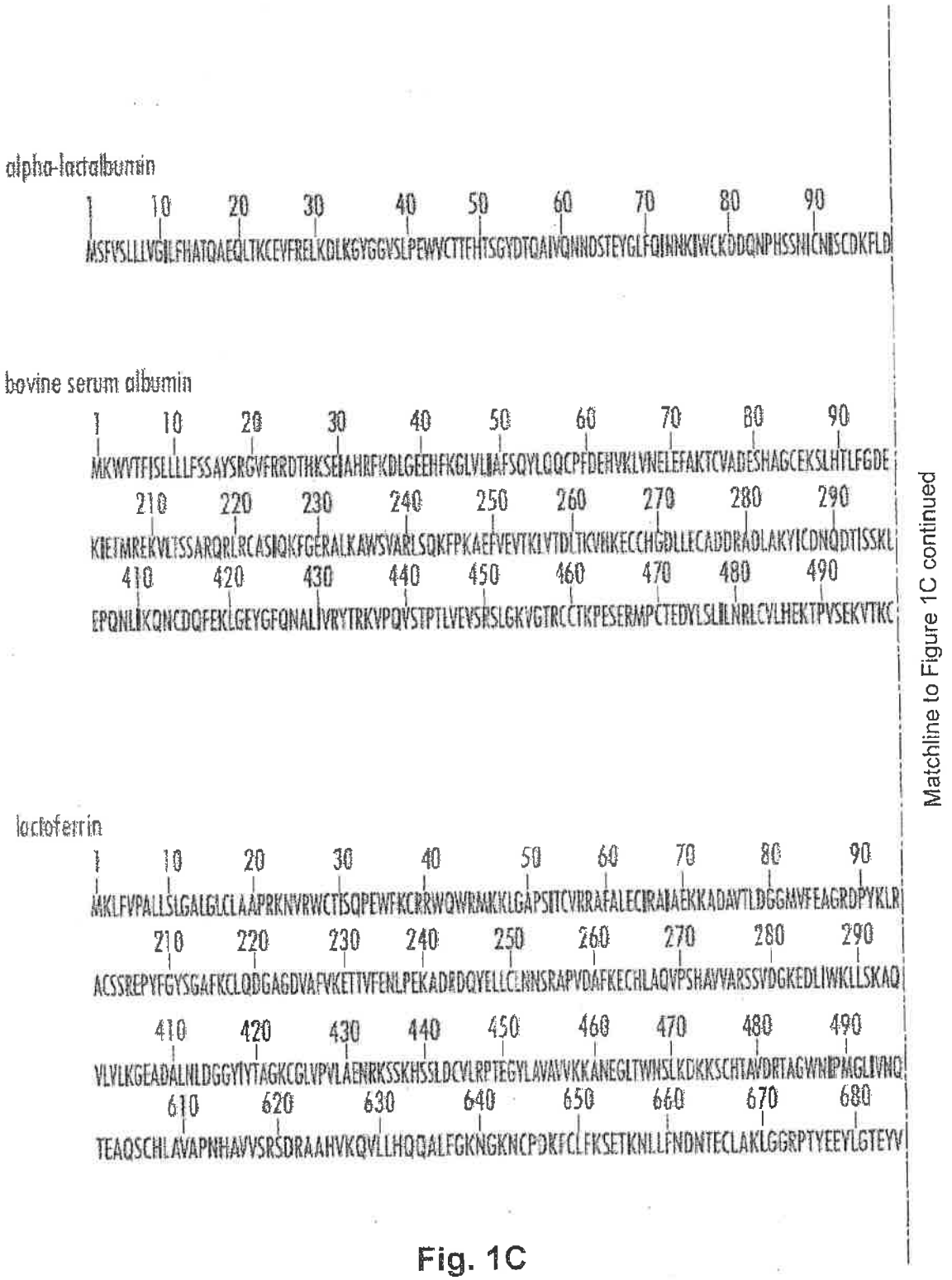

alpha-lactalbumin
bovine serum albumin
lactoferrin
Matchline to Figure 1C continued

Fig. 1C

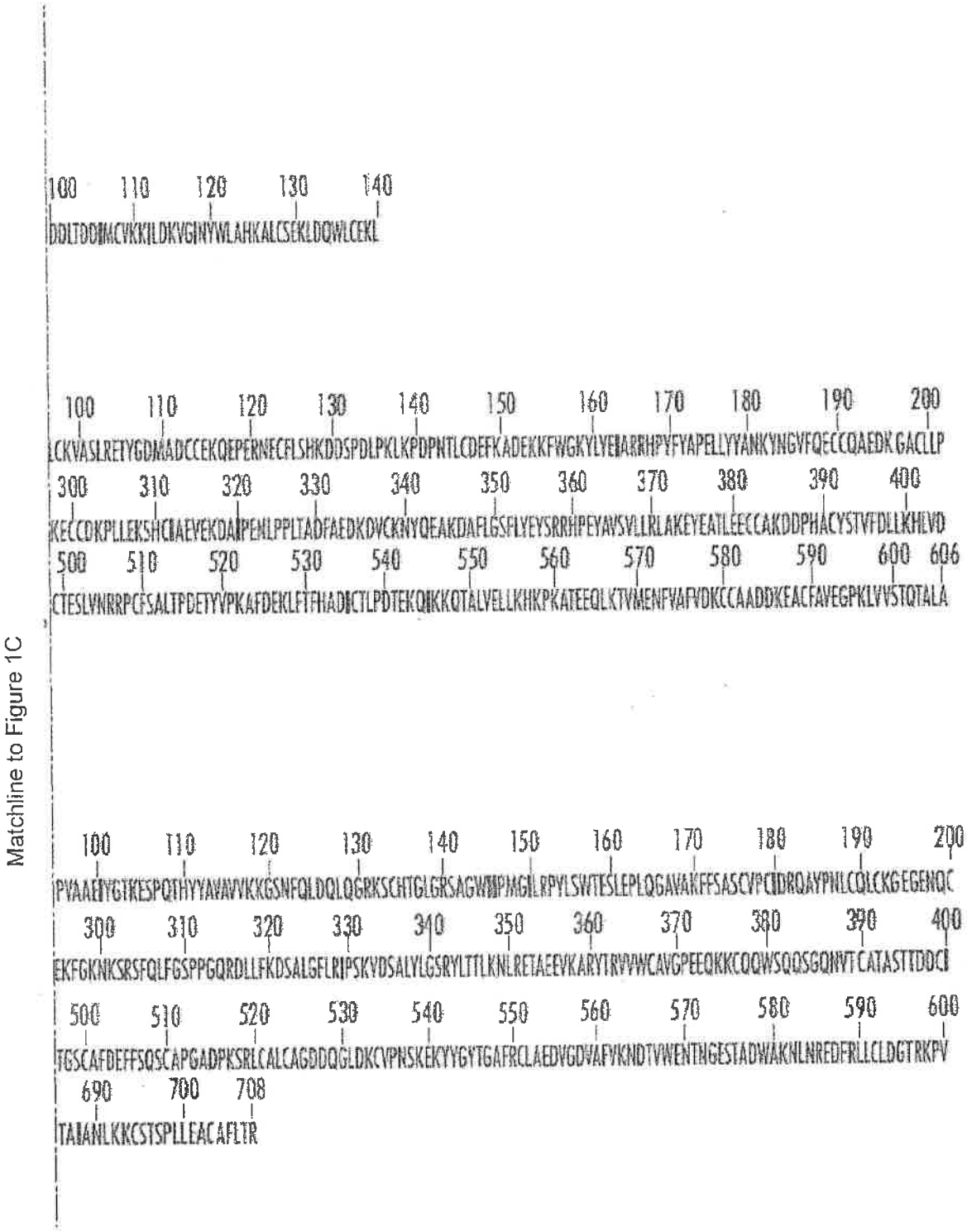


Fig. 1C
continued

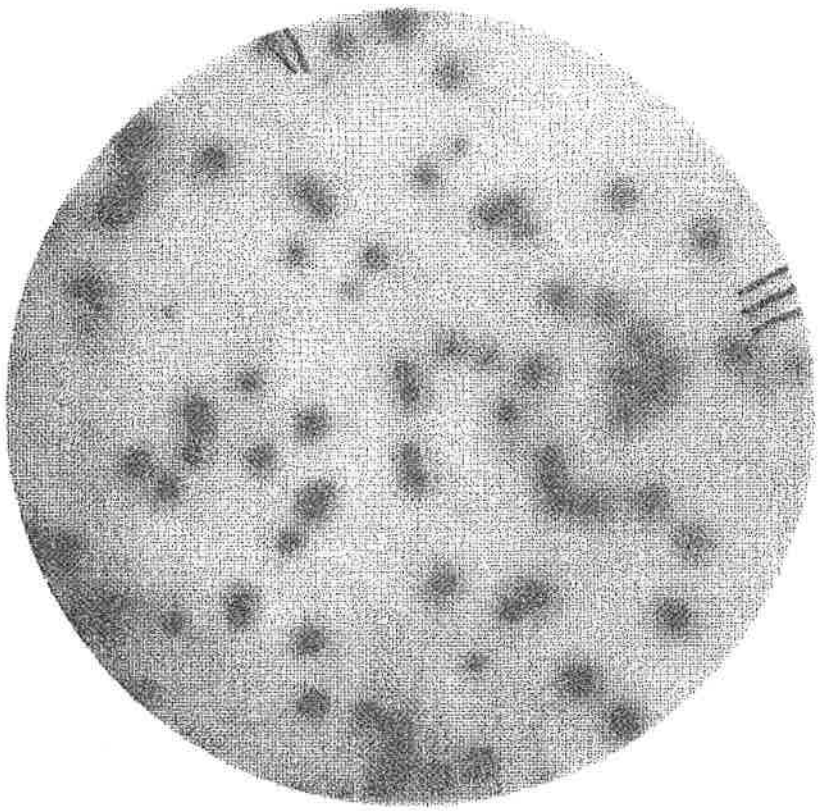


Fig. 2

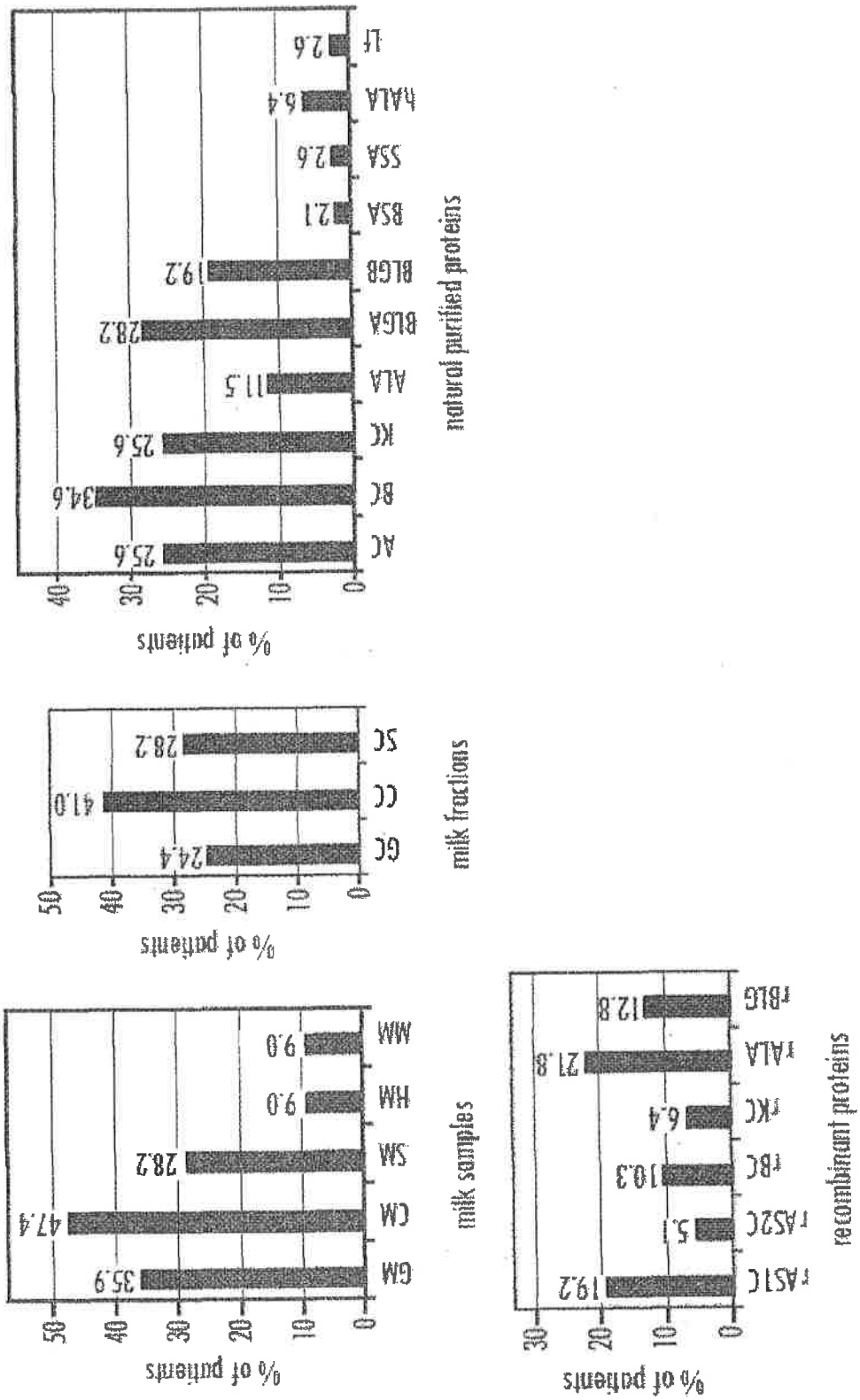

% of patients
0
10
20
30
40
50
AC
BC
KC
ALA
BLGA
BLGB
BSA
SSA
hALA
LF
25.6
34.6
25.6
11.5
28.2
19.2
2.1
2.6
6.4
2.6
natural purified proteins
GC
CC
SC
24.4
41.0
28.2
milk fractions
GM
CM
SM
HM
MM
35.9
47.4
28.2
9.0
9.0
milk samples
rAS1C
rAS2C
rBC
rKC
rALA
rBLG
19.2
5.1
10.3
6.4
21.8
12.8
recombinant proteins

Fig. 3

Milk component	Name	MW (kDa)
purified proteins		
α-casein	Bos d 8 alpha	25.5 (αS1) 26 (αS2)
β-casein	Bos d 8 beta	24.0
κ-casein	Bos d 8 kappa	19.0
α-lactalbumin	Bos d 4	14.2
β-lactoglobulin, variant A	Bos d 5 A	18.3
β-lactoglobulin, variant B	Bos d 5 B	18.3
lactoferrin	Bos d lactoferrin	80
bovine serum albumin	Bos d 6	66.3
sheep serum albumin	Ovi a SSA	24.3
human α-lactalbumin	Hom s lactalbumin	16.2
milk fractions		
cow casein	Bos d 8	19 - 26
sheep casein	Ovi a casein	24.3
goat casein	Cap h casein	24.3
recombinant proteins		
τα S1-casein	Bos d 8 alphaS1	23.9
τα S2-casein	Bos d 8 alphaS2	25.3
τβ-casein	Bos d 8 beta	24.5
τκ-casein	Bos d 8 kappa	19.9
τα-lactalbumin	Bos d 4	19.2
τβ-lactoglobulin	Bos d 5 B	15.1
recombinant fragments		
BSA fragment 1, AA 1-190		23.9
BSA fragment 2, AA 200-389		22.6
BSA fragment 3, AA390-590		23.4
αS1-casein peptides		
Cas1, AA 1-31		3.8
Cas2, AA 32-64		3.8
Cas3, AA 65-100		4.3
Cas4, AA 101-133		3.9
Cas5, AA 134-167		4.2
Cas6, AA 168-199		3.6
α-lactalbumin peptides		
Lac1, AA 1-19		2.3
Lac2, AA 15-34		2.2
Lac3, AA 30-49		2.2
Lac4, AA 45-64		2.4
Lac5, AA 60-79		2.3
Lac6, AA75-94		2.3
Lac7, AA 90-109		2.3
Lac8, AA 105-123		2.2
whole milk samples		
cow's milk	Bos d	
sheep's milk	Ovi a	
goat's milk	Cap h	
mare's milk	Equ c	
human milk	Hom s	

Matchline to Figure 6b

Fig. 4a

Matchline to Figure 4a

Function	Preparation	Reference
calcium phophate transport	natural purified	Stewart A.F. et al., 1984,X00564
calcium phophate transport	natural purified	Stewart A.F. et al., 1987, M16644
calcium phophate transport	natural purified	Baev A.A. et al., 1987, M16645
regulatory subunit of lactose synthase	natural purified	Alexander L.J. et al., 1988, X14907
lipocalin, binds retinol	natural purified	Vilotte J.-L., 1987, 18780
lipocalin, binds retinol	natural purified	Oliviera K.M. et al., 2001, 1QG5_A
transferrin, iron binding transport proteins	natural purified	Braunitzer G, et al., 1973, X14712
regulation of osmotic pressure of blood	natural purified	Pierce A. et al., 1991, X57084
regulation of osmotic pressure of blood	natural purified	unpublished, M73993
regulatory subunit of lactose synthase	natural purified	Brown W.M. et al., 1989, CAA34903
		Hall L. et al., 1982, J00270
calcium phophate transport	natural purified	Stewart A.F. et al., 1984,X00564
		Stewart A.F. et al., 1987, M16644
		Baev A.A. et al., 1987, M16645
		Alexander L.J. et al., 1988, X14907
calcium phophate transport	natural purified	Baev A.A. et al., 1987, M16645
calcium phophate transport	natural purified	Alexander L.J. et al., 1988, X14907
calcium phophate transport	recombinant, His-tagged	
calcium phophate transport	recombinant, His-tagged	
calcium phophate transport	recombinant, His-tagged	
calcium phophate transport	recombinant, His-tagged	
regulatory subunit of lactose synthase	recombinant, His-tagged	
lipocalin, binds retinol	recombinant, His-tagged	
	recombinant, His-tagged	
	recombinant, His-tagged	
	recombinant, His-tagged	
	synthesized	
	synthesized	
	synthesized	
	synthesized	
	synthesized	
	synthesized	
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	synthesized	
	synthesized	
	synthesized	
	synthesized	
	synthesized	
	synthesized	
	synthesized	

Fig. 4b

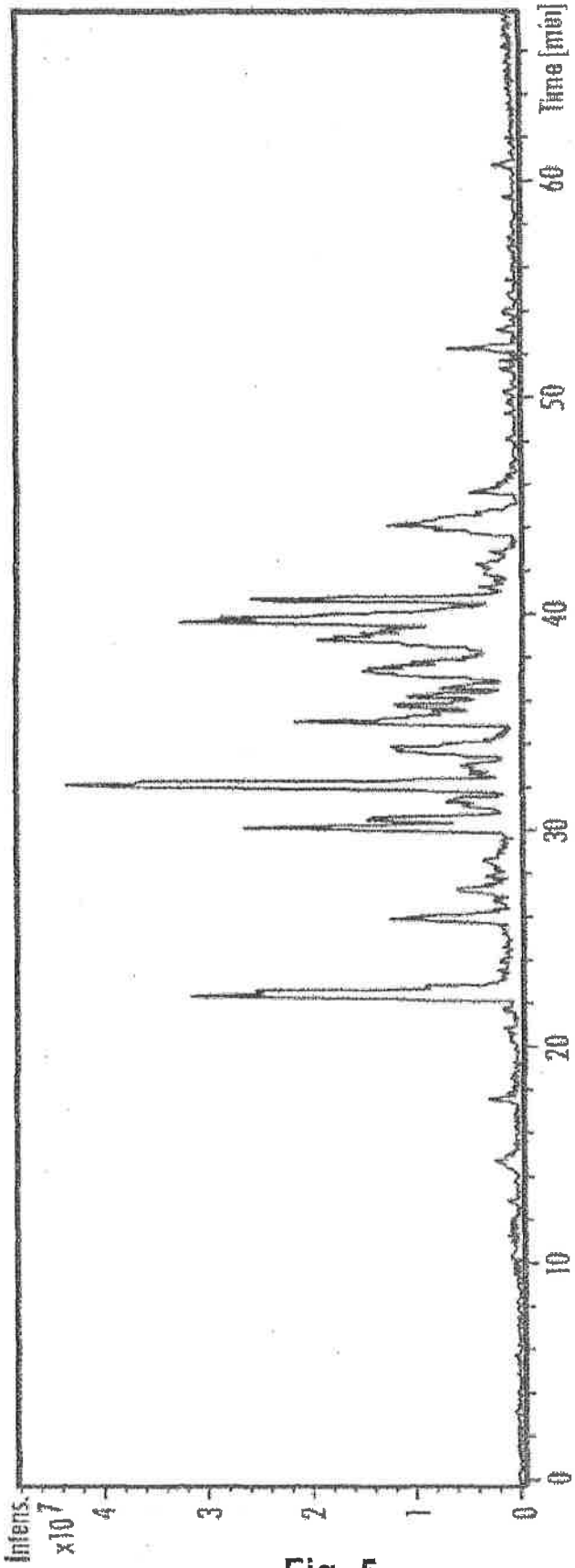


Fig. 5

Mascot Search Results
Protein View
Match to: **CASB_BOVIN** Score: 144
Beta-casein precursor - Bos taurus (Bovine)
Found in search of D:\Data\milk 0.3171.07.mgf
Nominal mass (Mr): **25149** ; Calculated pI value: **5.26**
NCBI BLAST search of CASB_BOVIN against nr
Unformatted sequence string for pasting into other applications
Taxonomy: Bos taurus
Fixed modifications: Carboxymethyl (C)
Variable modifications: Oxidation (M)
No enzyme cleavage specificity
Sequence Coverage: **11%**
Matched peptides shown in **Bold**

1 MKVLILACLV ALALARELEE LNVPGEIVES LSSSEESITR INKKIEKFQS
51 EEQQQTEDEL QDKIHPFAQT QSL **VYPFPGP IPN**SLPQNIP PLTQT **PVVVP**
101 P FLQPEVMGV SKVKEAMAPK HKEMPFPKYP VEPFTESQSL TLTDVENLHL
151 PLPLLQSWM **H QPHQPLPPT**V MFPPQSVLSL SQSKVLPVPQ KAVPYPQRDM
201 PIQAFLLYQE PVLGPVRGPF PIIV

Fig. 6

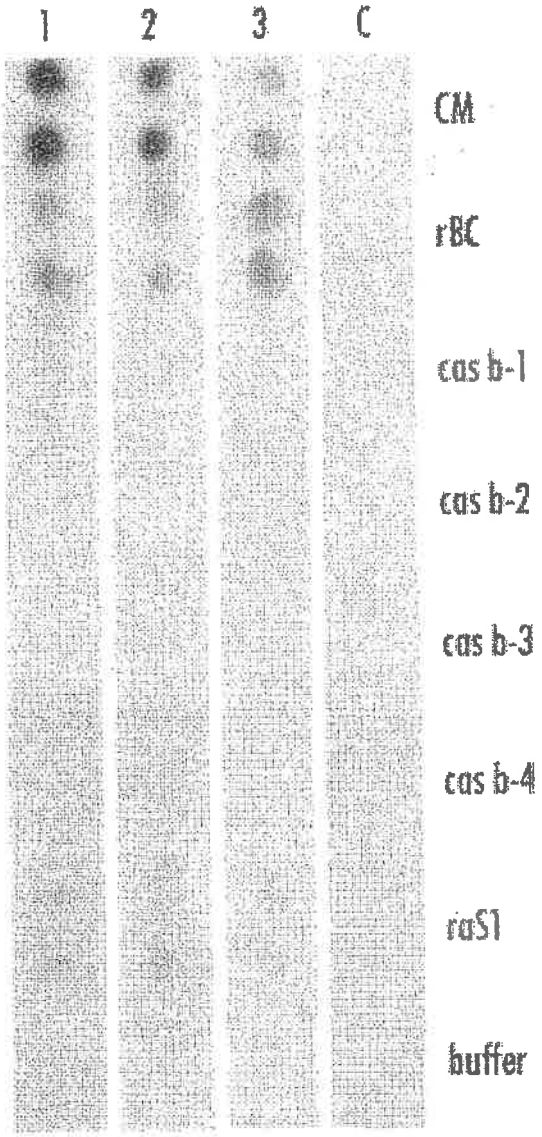


Fig. 7