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# A Compilation of Amino Acid Analyses of Proteins

## XVII. Residues Per Thousand Residues—4

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## Abstract

The amino acid analyses of 183 proteins, as residues per 1000 residues, are given. In addition the carbohydrate content and the content of any noncommon amino acids are also given. The sources of all proteins are presented.

**Index Entries:** Proteins, amino acid analyses of; analyses, amino acid, of proteins; amino acids, analyses, of proteins.

## Introduction

In Table 1, the Protein Index, are listed 183 proteins and the sources from which they were obtained. In Table 2 are the amino acid analyses in residues per 1000 residues. All data have been corrected to residues per 1000 residues regardless of how presented originally, e.g., as mole %, as mole per 100 moles, or % of total moles. References to the analyses are given. In the footnotes to Table 2 are carbohydrate analyses and analyses for noncommon amino acids, e.g., methylhistidine, hydroxyproline, trimethyllysine, and hydroxylysine. The method used to compile these data has been described (*1*).

This paper is part of a continuing compilation of amino acid analyses of proteins (*2*).

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TABLE 1
Protein Index

| *No.* | | |
|---|---|---|
| 1 | Name: | Abductin |
| | Source: | Bivalve hinge (*Pecten irradians*) |
| 2 | Name: | Abductin |
| | Source: | Bivalve hinge (*Spondylus regius*) |
| 3 | Name: | Abductin |
| | Source: | Bivalve hinge (*Spondylus varians*) |
| 4 | Name: | Abductin |
| | Source: | Bivalve hinge (*Spondylus pictorium*) |
| 5 | Name: | Acetylcholine (nicotinic) receptor |
| | Source: | *Electrophorus electricus* electric organ |
| 6 | Name: | Acetylcholine receptor |
| | Source: | *Torpedo californica* electric organ |
| 7 | Name: | Acetylcholine receptor |
| | Source: | *Torpedo californica* electroplax membrane |
| 8 | Name: | Acetylcholine receptor, water-soluble |
| | Source: | *Torpedo californica* electrogenic tissue |
| 9 | Name: | Acetylcholine receptor, Triton X-100 soluble |
| | Source: | *Torpedo californica* electric organ |
| 10 | Name: | Acetylcholine receptor |
| | Source: | *Torpedo marmorata* electroplax |
| 11 | Name: | Acetylcholine receptor |
| | Source: | *Torpedo marmorata* electric organ |
| 12 | Name: | Acetylcholine receptor |
| | Source: | *Torpedo nobiliana* |
| 13 | Name: | Acetylcholinesterase (EC 3.1.1.7) |
| | Source: | Beef erythrocytes |
| 14 | Name: | Acetylcholinesterase |
| | Source: | Human erythrocytes, membranes |
| 15 | Name: | Acetylcholinesterase, Form D |
| | Source: | *Electrophorus electricus* electric organs |
| 16 | Name: | Acetylcholinesterase, Form G |
| | Source: | *Electrophorus electricus* electric organs |
| 17 | Name: | Acetylcholinesterase, 18S + 14S |
| | Source: | *Electrophorus electricus* electric organs |
| 18 | Name: | Acetylcholinesterase, catalytic subunit dimers |
| | Source: | *Electrophorus electricus* electric organs |
| 19 | Name: | Acetylcholinesterase (EC 3.1.1.7) |
| | Source: | *Electrophorus electricus* electric organs |
| 20 | Name: | Acetylcholinesterase (EC 3.1.1.7) |
| | Source: | Electric eel electric organ tissue |

(*continued*)

TABLE 1 (*continued*)

| *No.* | | |
|---|---|---|
| 21 | Name: | Acetylcholinesterase (EC 3.1.1.7) 16S |
| | Source: | *Torpedo californica* electric organs |
| 22 | Name: | Acetyl-coenzyme A carboxylase |
| | Source: | Rat liver |
| 23 | Name: | β-*N*-Acetyl-D-glucosaminidase (EC 3.2.1.30) |
| | Source: | Human plasma |
| 24 | Name: | *exo*-β-*N*-Acetylglucosaminidase (EC 3.2.1.30) |
| | Source: | Silkworm (*Bombyx mori*) hemolymph |
| 25 | Name: | β-*N*-Acetylhexosaminidase (EC 3.2.1.30) |
| | Source: | Human plasma |
| 26 | Name: | β-*N*-Acetylhexosaminidase (EC 3.2.1.30) |
| | Source: | Human placenta |
| 27 | Name: | *N*-Acetyl-β-D-hexosaminidase, Form I |
| | Source: | Fenugreek (*Trigonella foenum graecum*) |
| 28 | Name: | *N*-Acetyl-β-D-hexosaminidase, Form II |
| | Source: | Fenugreek (*Trigonella foenum graecum*) |
| 29 | Name: | *N*-Acetyl-β-D-hexosaminidase, Form III |
| | Source: | Fenugreek (*Trigonella foenum graecum*) |
| 30 | Name: | *N*-Acetyl-β-D-hexosaminidase, Form IV |
| | Source: | Fenugreek (*Trigonella foenum graecum*) |
| 31 | Name: | Actin |
| | Source: | *Physarum polycephalum* |
| 32 | Name: | Actin |
| | Source: | Sea urchin (*Anthocidaris crassispina*) mantle |
| 33 | Name: | Actin |
| | Source: | Goldfish (*Carassius auratus*) retina |
| 34 | Name: | Actin |
| | Source: | Rabbit liver cells |
| 35 | Name: | α-Actinin |
| | Source: | Pig cardiac muscle |
| 36 | Name: | α-Actinin |
| | Source: | Pig dark skeletal muscle |
| 37 | Name: | α-Actinin |
| | Source: | Pig light skeletal muscle |
| 38 | Name: | α-Actinin |
| | Source: | Pig skeletal muscle (red) |
| 39 | Name: | α-Actinin |
| | Source: | Pig skeletal muscle (white) |
| 40 | Name: | α-Actinin |
| | Source: | Dung beetle (*Heliocopris japetus*) |

(*continued*)

TABLE 1 (*continued*)

| *No.* | | |
|---|---|---|
| 41 | Name: | α-Actinin |
| | Source: | Water bug (*Lethocerus cordofanus*) |
| 42 | Name: | β-Actinin |
| | Source: | Rabbit skeletal muscle |
| 43 | Name: | β-Actinin, subunit βI |
| | Source: | From β-actinin (No. 42) |
| 44 | Name: | β-Actinin, subunit βII |
| | Source: | From β-actinin (No. 42) |
| 45 | Name: | β-Actinin |
| | Source: | *Physarum polycephalum* |
| 46 | Name: | ADP/ATP translocator (bongkrekate-protein) |
| | Source: | Beef heart mitochondria |
| 47 | Name: | ADP/ATP translocator (carboxyatractylate-protein) |
| | Source: | Beef heart mitochondria |
| 48 | Name: | Adrenodoxin reductase |
| | Source: | Beef adrenal glands |
| 49 | Name: | Agglutinin |
| | Source: | Wheat germ |
| 50 | Name: | Agglutinin |
| | Source: | *Limulus polyphemus* hemolymph |
| 51 | Name: | Agglutinin, anti-A |
| | Source: | *Helix pomatia* |
| 52 | Name: | Agglutinin, anti-A |
| | Source: | *Euhadra callizona amalie* |
| 53 | Name: | 5-Agglutinin, sexual agglutination factor |
| | Source: | *Hansenula wingei* Y-2340 Type 5 cells |
| 54 | Name: | Alanine dehydrogenase (EC 1.4.1.1) |
| | Source: | *Bacillus subtilis* str. SJ 2 |
| 55 | Name: | Albumin |
| | Source: | Human serum |
| 56 | Name: | Aminoazo dye-binding protein |
| | Source: | Rat liver cytosol |
| 57 | Name: | Allergen |
| | Source: | *Ascaris lumbricoides* (Var suum) body fluid |
| 58 | Name: | Alloantigen H-$2^d$ |
| | Source: | Mouse |
| 59 | Name: | Alloantigen H-$2^b$ |
| | Source: | Mouse |
| 60 | Name: | Alloantigen RAJI (HL-A3, A4, Lc20) |
| | Source: | Human |
| 61 | Name: | Alloantigen R-4265 (HL-A2, A9, Lc-17, A7) |
| | Source: | Human |

(*continued*)

TABLE 1 (*continued*)

| *No.* | | |
|---|---|---|
| 62 | Name: | Asialoglycoprotein receptor |
| | Source: | Rabbit liver membrane |
| 63 | Name: | Asialoglycoprotein receptor |
| | Source: | Rabbit liver |
| 64 | Name: | Asialoglycoprotein receptor, subunit A |
| | Source: | No. 63 |
| 65 | Name: | Asialoglycoprotein receptor, subunit B |
| | Source: | No. 63 |
| 66 | Name: | Binders, $B_{12}$ carriers, $S^{\circ}_{20} = 1.112$ |
| | Source: | Pig stomach |
| 67 | Name: | Binders, $B_{12}$ carriers, $S^{\circ}_{20} = 2.8$ |
| | Source: | Pig stomach |
| 68 | Name: | Clq |
| | Source: | Mouse serum and ascites fluid |
| 69 | Name: | Cadmium-binding protein |
| | Source: | Rat liver |
| 70 | Name: | Calcium-binding protein |
| | Source: | Rat brain, synaptic plasma membranes |
| 71 | Name: | Canavanine-induced bodies |
| | Source: | *Escherichia coli B90H* |
| 72 | Name: | Carboxyatractylate-binding protein |
| | Source: | Beef heart mitochondria |
| 73 | Name: | Connectin |
| | Source: | Sardine (*Sardinops melanosticta*) dark muscle |
| 74 | Name: | Connectin |
| | Source: | Sardine (*Sardinops melanosticta*) white muscle |
| 75 | Name: | Connectin |
| | Source: | Mackerel (*Pneumatophorus japonicus japonicus*) dark muscle |
| 76 | Name: | Connectin |
| | Source: | Mackerel (*Pneumatophorus japonicus japonicus*) white muscle |
| 77 | Name: | Connectin |
| | Source: | Carp (*Cyprinus carpio*) white muscle |
| 78 | Name: | Connectin |
| | Source: | Carp (*Cyprinus carpio*) dark muscle |
| 79 | Name: | Connectin |
| | Source: | Bullfrog skeletal muscle |
| 80 | Name: | Connectin |
| | Source: | Tortoise (*Cyclemys flavomarginata*) skeletal muscles |
| 81 | Name: | Connectin |
| | Source: | Chicken skeletal muscle |
| 82 | Name: | Connectin |
| | Source: | Rat skeletal muscle |

(*continued*)

TABLE 1 (*continued*)

| *No.* | | |
|---|---|---|
| 83 | Name: | Connectin |
| | Source: | Rabbit skeletal muscles |
| 84 | Name: | Connectin |
| | Source: | Rabbit psoas muscle |
| 85 | Name: | Connectin |
| | Source: | Chicken cardiac muscle |
| 86 | Name: | Connectin |
| | Source: | Chicken smooth (gizzard) muscle |
| 87 | Name: | Connectin |
| | Source: | Frog cardiac muscles |
| 88 | Name: | Connectin |
| | Source: | Beef cardiac muscles |
| 89 | Name: | Connectin |
| | Source: | Crayfish claw muscles |
| 90 | Name: | Connectin |
| | Source: | Crayfish tail muscle |
| 91 | Name: | Connectin-like protein (Elastic protein) |
| | Source: | Human erythrocytes |
| 92 | Name: | Connectin-like protein (Elastic protein) |
| | Source: | Slime mold (*Physarum*) |
| 93 | Name: | Connectin-like protein (Elastic protein) |
| | Source: | *Salmonella* cell body |
| 94 | Name: | Connectin-like protein (Elastic protein) |
| | Source: | Sea-urchin (*Hemicentrotus pulcherrimus*) eggs |
| 95 | Name: | Connectin-like protein (Elastic protein) |
| | Source: | Sea-urchin (*Anthocidaris crassispina*) eggs |
| 96 | Name: | Copper-binding protein |
| | Source: | Rat intestine |
| 97 | Name: | Copper protein |
| | Source: | Mungbean (*Vigna radiata[L]* Wilczek) |
| 98 | Name: | Copper-chelatin |
| | Source: | Yeast (*Saccharomyces cerevisiae* var. *ellipsoides*) |
| 99 | Name: | Copper-chelatin |
| | Source: | Rat liver |
| 100 | Name: | α-Crustacyanin, subunit $C_2$ |
| | Source: | Lobster carapace (*Homarus gammarusis* (L)) |
| 101 | Name: | α-Crustacyanin, subunit $C_1$ |
| | Source: | Lobster carapace (*Homarus gammarusis* (L)) |
| 102 | Name: | α-Crustacyanin, subunit $A_1$ |
| | Source: | Lobster carapace (*Homarus gammarusis* (L)) |
| 103 | Name: | α-Crustacyanin, subunit $A_2$ |
| | Source: | Lobster carapace (*Homarus gammarusis* (L)) |

(*continued*)

TABLE 1 (*continued*)

| *No.* | | |
|---|---|---|
| 104 | Name: | α-Crustacyanin, subunit $A_3$ |
| | Source: | Lobster carapace (*Homarus gammarusis* (L)) |
| 105 | Name: | Crystallin |
| | Source: | Axolotl lenses (*Ambystoma mexicanum*) |
| 106 | Name: | Crystallin |
| | Source: | Axolotl cataractous lenses (*Ambystoma mexicanum*) |
| 107 | Name: | α-Crystallin |
| | Source: | Human lenses, 22-year-old person |
| 108 | Name: | α-Crystallin |
| | Source: | Human lenses, periphery, 65–70 year old |
| 109 | Name: | α-Crystallin |
| | Source: | Human lenses, cataractous lenses, 65–70 years old |
| 110 | Name: | α-Crystallin |
| | Source: | Human lenses, infant, 6 weeks old |
| 111 | Name: | α-Crystallin |
| | Source: | Normal human lenses, 70 year old |
| 112 | Name: | α-Crystallin |
| | Source: | Human cortical cataract |
| 113 | Name: | α-Crystallin |
| | Source: | Human brunescent cataract |
| 114 | Name: | α-Crystallin |
| | Source: | Calf lenses |
| 115 | Name: | α-Crystallin A, polypeptide |
| | Source: | Calf lenses |
| 116 | Name: | α-Crystallin, B polypeptide |
| | Source: | Calf lenses |
| 117 | Name: | $\beta_S$-Crystallin |
| | Source: | Human lenses |
| 118 | Name: | β-Crystallin, $\beta B_2 \beta B_5$ |
| | Source: | Calf lenses |
| 119 | Name: | β-Crystallin, $\beta B_p \beta B_4$ |
| | Source: | Calf lenses |
| 120 | Name: | β-Crystallin, $\beta_A$ |
| | Source: | Calf lenses |
| 121 | Name: | $\beta_H$-Crystallin |
| | Source: | Calf lenses (*Bos taurus*) |
| 122 | Name: | $\beta_H$-Crystallin |
| | Source: | Sheep lenses (*Ovis aries*) |
| 123 | Name: | $\beta_H$-Crystallin |
| | Source: | Pig lenses (*Sus scrofa*) |
| 124 | Name: | $\beta_H$-Crystallin |
| | Source: | Rat lenses (*Rattus norvegicus*) |

(*continued*)

TABLE 1 (*continued*)

| *No.* | | |
|---|---|---|
| 125 | Name: | $\beta_H$-Crystallin |
| | Source: | Rabbit lenses (*Oryctolagus cuniculus*) |
| 126 | Name: | $\beta_H$-Crystallin |
| | Source: | Monkey lenses, juvenile rhesus (*Macaca mulatta*) |
| 127 | Name: | $\beta_L$-Crystallin |
| | Source: | Calf lenses (*Bos taurus*) |
| 128 | Name: | $\beta_L$-Crystallin |
| | Source: | Sheep lenses (*Ovis aries*) |
| 129 | Name: | $\beta_L$-Crystallin |
| | Source: | Pig lenses (*Sus scrofa*) |
| 130 | Name: | $\beta_L$-Crystallin |
| | Source: | Rat lenses (*Rattus norvegicus*) |
| 131 | Name: | $\beta_L$-Crystallin |
| | Source: | Rabbit lenses, (*Oryctolagus cuniculus*) |
| 132 | Name: | $\beta_L$-Crystallin |
| | Source: | Monkey lenses, juvenile rhesus (*Macaca mulatta*) |
| 133 | Name: | $\gamma$-Crystallin |
| | Source: | Human lenses, foetal |
| 134 | Name: | $\gamma$-Crystallin |
| | Source: | Human lenses, adolescent |
| 135 | Name: | $\gamma$-Crystallin |
| | Source: | Human lenses, older |
| 136 | Name: | $\gamma$-Crystallin |
| | Source: | Normal rat lenses |
| 137 | Name: | FM-Crystallin |
| | Source: | Calf lenses |
| 138 | Name: | Cytochrome b (37,000 daltons) |
| | Source: | Beef heart |
| 139 | Name: | Cytochrome b (17,000 daltons) |
| | Source: | Beef heart |
| 140 | Name: | Cytochrome b |
| | Source: | Beef heart |
| 141 | Name: | Cytochrome $bc_1$ complex |
| | Source: | Yeast (*Saccharomyces cerevisiae*) |
| 142 | Name: | Cytochrome $bc_1$, 44,000-$M_r$ polypeptide |
| | Source: | No. 141 |
| 143 | Name: | Cytochrome $bc_1$, 40,000-$M_r$ polypeptide |
| | Source: | No. 141 |
| 144 | Name: | Cytochrome $bc_1$, b32,000-$M_r$ polypeptide |
| | Source: | No. 141 |
| 145 | Name: | Cytochrome $bc_1$ complex, "small" |
| | Source: | *Neurospora crassa* |

(*continued*)

TABLE 1 (*continued*)

| *No.* | | |
|---|---|---|
| 146 | Name: | Cytochrome $bc_1$, Cytochrome $C_1$ component |
| | Source: | No. 145 |
| 147 | Name: | Cytochrome $bc_1$, cytochrome b (I) component |
| | Source: | No. 145 |
| 148 | Name: | Cytochrome $bc_1$, cytochrome b (II) component |
| | Source: | No. 145 |
| 149 | Name: | Cytochrome $bc_1$, 14,000 Dalton component |
| | Source: | No. 145 |
| 150 | Name: | Cytochrome $bc_1$, 8000 Dalton component |
| | Source: | No. 145 |
| 151 | Name: | Cytochrome oxidase |
| | Source: | *Neurospora crassa* |
| 152 | Name: | Cytochrome oxidase, subunit 1 |
| | Source: | No. 151 |
| 153 | Name: | Cytochrome oxidase, subunit 2 |
| | Source: | No. 151 |
| 154 | Name: | Cytochrome oxidase, subunit 3 |
| | Source: | No. 151 |
| 155 | Name: | Cytochrome oxidase, subunit I |
| | Source: | Beef heart mitochondria |
| 156 | Name: | Cytochrome oxidase, subunit II |
| | Source: | Beef heart mitochondria |
| 157 | Name: | Cytochrome c oxidase |
| | Source: | Beef heart muscle |
| 158 | Name: | Cytochrome c oxidase, peptide component I |
| | Source: | No. 157 |
| 159 | Name: | Cytochrome c oxidase, peptide component II |
| | Source: | No. 157 |
| 160 | Name: | Cytochrome c oxidase, peptide component III |
| | Source: | No. 157 |
| 161 | Name: | Cytochrome c oxidase, peptide component IV |
| | Source: | No. 157 |
| 162 | Name: | Cytochrome c oxidase, peptide components V and VI |
| | Source: | No. 157 |
| 163 | Name: | Cytochrome c oxidase, peptide component VII |
| | Source: | No. 157 |
| 164 | Name: | Cytochrome c oxidase, peptide component VIII |
| | Source: | No. 157 |
| 165 | Name: | Cytochrome c oxidase |
| | Source: | Bakers' yeast |
| 166 | Name: | Cytochrome c oxidase, subunit I |
| | Source: | No. 165 |

(*continued*)

TABLE 1 (*continued*)

| *No.* | | |
|---|---|---|
| 167 | Name: | Cytochrome c oxidase, subunit II |
| | Source: | No. 165 |
| 168 | Name: | Cytochrome c oxidase, subunit IV |
| | Source: | No. 165 |
| 169 | Name: | Cytochrome c oxidase, subunit VI |
| | Source: | No. 165 |
| 170 | Name: | Dentin |
| | Source: | Beef teeth |
| 171 | Name: | Deoxyribonucleic acid (DNA) binding protein 1 |
| | Source: | Human serum |
| 172 | Name: | Deoxyribonucleic acid (DNA) binding protein 2 |
| | Source: | Human serum |
| 173 | Name: | Deoxyribonucleic acid (DNA) binding protein (protein BA) |
| | Source: | Rat liver nuclei chromatin |
| 174 | Name: | Deoxyribonucleic acid (DNA) binding protein |
| | Source: | Chicken erythroblast |
| 175 | Name: | Deoxyribonucleic acid (DNA) binding protein |
| | Source: | Chicken reticulocyte |
| 176 | Name: | Deoxyribonucleic acid (DNA) binding protein |
| | Source: | Chicken erythrocyte |
| 177 | Name: | Deoxyribonucleic acid (DNA) polymerase |
| | Source: | *Escherichia coli* |
| 178 | Name: | Dihydrofolate reductase |
| | Source: | *Escherichia coli* MB3746 |
| 179 | Name: | Dihydrofolate reductase |
| | Source: | *Escherichia coli*, MB 3747 |
| 180 | Name: | Dipeptidyl peptidase IV |
| | Source: | Pig small intestinal brush-border membrane |
| 181 | Name: | *o*-Diphenol oxidase |
| | Source: | Blowfly (*Calliphora erythrocephala*) larvae |
| 182 | Name: | Discoidin |
| | Source: | Slime mold (*Dictyostelium discoideum*) |
| 183 | Name: | Dynein (EC 3.6.1.3) |
| | Source: | Sea urchin sperm flagella |

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## References

1. Kirschenbaum, D. M. (1980), *J. Chem. Info. Comput. Sci.* **20,** 152.
2. Kirschenbaum, D. M. (1981), *Int. J. Biochem.* **13,** 637.

TABLE 2
Amino Acid Analyses of Proteins Residues per 1000 Residues

| Amino acid | Residues per 1000 residues | | | | | |
|---|---|---|---|---|---|---|
| *Protein Index No.:* | **1** | **2** | **3** | **4** | **5** | **6** |
| Glycine | 584 | 584 | 544 | 573 | 48 | 46 |
| Alanine | 67 | 61 | 75 | 30 | 54 | 50 |
| Valine | 5.8 | 16 | 116 | 18 | 69 | 71 |
| Leucine | 3.8 | 2.1 | —[3] | 2.2 | 107 | 95 |
| Isoleucine | 2.6 | 2.1 | 1.8 | 2.1 | 81 | 82 |
| Proline | 8.1 | 46 | 72 | 48 | 67 | 59 |
| Serine | 51 | 29 | 16 | 18 | 82 | 79 |
| Threonine | 6.9 | 2.0 | 1.8 | 1.4 | 60 | 64 |
| Aspartic acid | 39 | 8.7 | 6.1 | 6.7 | 98 | 116 |
| Glutamic acid | 21 | 9.6 | 3.3 | 12 | 90 | 100 |
| Half-cystine | 1.9 | —[2] | —[1] | —[2] | 17 | 12 |
| Methionine | 125 | 100 | 1.7 | 141 | 34 | 20 |
| Lysine | 8.9 | 7.0 | 4.5 | 10 | 63 | 54 |
| Arginine | 4.4 | 35 | 30 | 47 | 42 | 39 |
| Histidine | —[1] | —[1] | —[1] | —[2] | 25 | 24 |
| Phenylalanine | 69 | 95 | 108 | 75 | 51 | 45 |
| Tyrosine | 1.4 | 3.8 | 20 | 16 | 38 | 37 |
| Tryptophan | — | — | — | — | 24 | 24[4] |
| Amide-ammonia | — | — | — | — | — | — |
| *Ref. no.:* | *74* | *74* | *74* | *74* | *54* | *16* |

*(continued)*

TABLE 2 (*continued*)

| Residues per 1000 residues | | | | | | | |
|---|---|---|---|---|---|---|---|
| **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** |
| 49 | 75 | 54 | 64 | 47 | 50 | 132 | 84 |
| 51 | 62 | 55 | 60 | 49 | 45 | 106 | 82 |
| 70 | 63 | 63 | 55 | 72 | 62 | 73 | 82 |
| 97 | 105 | 98 | 93 | 98 | 102 | 75 | 93 |
| 75 | 53 | 63 | 52 | 73 | 62 | 28 | 27 |
| 59 | 58 | 59 | 62 | 59 | 71 | 47 | 94 |
| 66 | 76 | 78 | 71 | 74 | 64 | 109 | 68 |
| 63 | 57 | 59 | 63 | 66 | 68 | 54 | 47 |
| 119 | 103 | 113 | 118 | 110 | 122 | 80 | 76 |
| 102 | 117 | 114 | 107 | 94 | 97 | 112 | 110 |
| 9 | 19 | 8 | 20 | 19 | 28 | 8.0 | 9 |
| 18 | 19 | 16 | 17 | 25 | 16 | 15 | 17 |
| 61 | 52 | 59 | 61 | 49 | 45 | 62 | 30 |
| 41 | 42 | 41 | 35 | 39 | 37 | 44 | 55 |
| 27 | 26 | 27 | 21 | 23 | 25 | 16 | 19 |
| 46 | 44 | 45 | 44 | 47 | 42 | 35 | 43 |
| 38 | 35 | 36 | 36 | 40 | 42 | 32 | 32 |
| —[5] | — | 6 | 21 | 17 | 15 | — | 31 |
| — | — | —[6] | —[7] | —[8] | —[9] | — | — |
| *55* | *29* | *1* | *15* | *30* | *57* | *3* | *64* |

(*continued*)

TABLE 2 (*continued*)

| Amino acid | Residues per 1000 residues | | | | | |
|---|---|---|---|---|---|---|
| *Protein Index No.:* | **15** | **16** | **17** | **18** | **19** | **20** |
| Glycine | 99 | 113 | 106 | 81 | 113 | 91 |
| Alanine | 70 | 71 | 52 | 55 | 56 | 60 |
| Valine | 63 | 64 | 67 | 72 | 71 | 67 |
| Leucine | 80 | 71 | 85 | 88 | 83 | 91 |
| Isoleucine | 42 | 37 | 37 | 37 | 38 | 40 |
| Proline | 64 | 46 | 67 | 67 | 72 | 72 |
| Serine | 76 | 71 | 64 | 77 | 72 | 68 |
| Threonine | 53 | 48 | 36 | 43 | 38 | 44 |
| Aspartic acid | 113 | 97 | 116 | 120 | 119 | 129 |
| Glutamic acid | 112 | 127 | 101 | 97 | 101 | 103 |
| Half-cystine | 21 | — | — | — | 10 | 11 |
| Methionine | 20 | 13 | 24 | 22 | 30 | — |
| Lysine | 56 | 69 | 40 | 38 | 34 | 45 |
| Arginine | 47 | 32 | 53 | 54 | 45 | 52 |
| Histidine | 22 | 22 | 23 | 22 | 26 | 22 |
| Phenylalanine | 40 | 49 | 47 | 53 | 48 | 54 |
| Tyrosine | 24 | 26 | 33 | 37 | 35 | 36 |
| Tryptophan | — | — | — | — | — | — |
| Amide ammonia | — | — | —[10] | —[11] | —[12] | —[13] |
| *Ref. no.:* | *5* | *5* | *72* | *72* | *91* | *14* |

(*continued*)

TABLE 2 (*continued*)

| Residues per 1000 residues | | | | | | | |
|---|---|---|---|---|---|---|---|
| **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** |
| 114.2 | 62.1 | 52 | 71 | 63 | 66 | 90 | 110 |
| 58.5 | 65.4 | 77 | 62 | 59 | 68 | 77 | 70 |
| 65.7 | 80.6 | 63 | 62 | 79 | 71 | 36 | 35 |
| 86.6 | 91.2 | 101 | 84 | 92 | 90 | 75 | 65 |
| 46.4 | 55.0 | 24 | 59 | 39 | 39 | 30 | 30 |
| 66.4 | 49.0 | 49 | 23 | 54 | 59 | 60 | 55 |
| 78.7 | 60.8 | 67 | 78 | 67 | 71 | 100 | 120 |
| 47.2 | 48.9 | 63 | 45 | 64 | 63 | 70 | 65 |
| 96.9 | 91.8 | 95 | 123 | 96 | 99 | 92 | 120 |
| 118.2 | 119.2 | 139 | 93 | 127 | 111 | 95 | 95 |
| — | 14.8 | 21 | 14 | 23 | 22 | 15 | 21.9 |
| 22.0 | 31.4 | 11 | 30 | 14 | 13 | 12 | 10 |
| 51.7 | 50.3 | 90 | 39 | 67 | 69 | 90 | 53 |
| 48.0 | 60.5 | 35 | 53 | 41 | 38 | 30 | 29 |
| 26.1 | 29.1 | 23 | 34 | 20 | 23 | 15 | 18 |
| 50.8 | 41.4 | 44 | 37 | 37 | 40 | 60 | 40 |
| 23.4 | 33.7 | 28 | 37 | 36 | 39 | 40 | 25 |
| — | 15.1 | 18 | — | 22 | — | — | — |
| —[14] | —[15] | 103[16] | —[17] | — | — | —[18] | —[19] |
| *42* | *27* | *87* | *33* | *88* | *88* | *6* | *6* |

*(continued)*

TABLE 2 (*continued*)

| Amino acid | Residues per 1000 residues | | | | | |
|---|---|---|---|---|---|---|
| *Protein Index No.:* | **29** | **30** | **31** | **32** | **33** | **34** |
| Glycine | 80 | 81 | 94.9 | 67 | 97 | 83 |
| Alanine | 72 | 73 | 79.0 | 85 | 72 | 82 |
| Valine | 43 | 47 | 58.6 | 51 | 50 | 64 |
| Leucine | 102 | 82 | 79.3 | 82 | 82 | 86 |
| Isoleucine | 37 | 44 | 60.5 | 80 | 62 | 68 |
| Proline | 54 | 58 | 53.2 | 50 | 72 | 50 |
| Serine | 81 | 82 | 63.5 | 60 | 57 | 57 |
| Threonine | 63 | 63 | 62.6 | 67 | 55 | 57 |
| Aspartic acid | 130 | 135 | 89.4 | 84 | 102 | 85 |
| Glutamic acid | 101 | 104 | 110.4 | 116 | 135 | 117 |
| Half-cystine | 20.6 | 12 | tr[22] | 12 | — | 11 |
| Methionine | 19 | 15 | 30.2 | 43 | 18 | 32 |
| Lysine | 70 | 58 | 57.7 | 50 | 48 | 68 |
| Arginine | 24 | 30 | 52.2 | 44 | 51 | 50 |
| Histidine | 18 | 17.5 | 24.4 | 24 | 28 | 19 |
| Phenylalanine | 51 | 48 | 46.1 | 34 | 30 | 36 |
| Tyrosine | 32 | 35 | 37.0 | 45 | 42 | 33 |
| Tryptophan | — | — | — | 8 | — | — |
| Amide ammonia | —[20] | —[21] | —[23] | — | —[24] | —[25] |
| *Ref. no.:* | *6* | *6* | *40* | *54* | *19* | *18* |

*(continued)*

TABLE 2 (*continued*)

| Residues per 1000 residues | | | | | | | |
|---|---|---|---|---|---|---|---|
| **35** | **36** | **37** | **38** | **39** | **40** | **41** | **42** |
| 46.5 | 51.0 | 60.7 | 56.0 | 65.3 | 60.1 | 56.7 | 59 |
| 83.1 | 86.2 | 92.8 | 92.2 | 94.9 | 79.1 | 81.1 | 68 |
| 36.4 | 38.1 | 43.1 | 35.4 | 40.6 | 45.4 | 41.5 | 63 |
| 93.3 | 96.9 | 101.7 | 95.3 | 100.9 | 99.1 | 102.2 | 95 |
| 54.6 | 49.9 | 42.8 | 43.4 | 38.5 | 54.5 | 47.0 | 62 |
| 34.3 | 34.7 | 35.8 | 36.5 | 37.9 | 37.3 | 43.6 | 44 |
| 44.2 | 45.7 | 48.7 | 50.2 | 53.8 | 52.8 | 47.6 | 63 |
| 48.4 | 46.7 | 46.7 | 47.0 | 44.9 | 57.5 | 57.6 | 49 |
| 126.2 | 123.9 | 110.3 | 117.1 | 105.6 | 99.3 | 109.6 | 144 |
| 180.1 | 176.1 | 164.8 | 168.4 | 163.2 | 170.2 | 176.7 | 138 |
| 10.7 | 10.8 | 11.2 | 12.4 | 12.7 | — | — | — |
| 27.2 | 26.1 | 27.2 | 27.1 | 28.0 | 27.0 | 26.6 | 12 |
| 57.6 | 56.2 | 52.9 | 56.5 | 52.7 | 65.1 | 71.2 | 73 |
| 63.0 | 64.4 | 68.0 | 66.1 | 69.4 | 66.3 | 62.8 | 45 |
| 23.8 | 23.8 | 21.6 | 23.7 | 21.6 | 25.6 | 22.7 | 19 |
| 30.4 | 30.2 | 32.1 | 30.5 | 31.8 | 34.1 | 35.7 | 33 |
| 25.8 | 25.1 | 25.3 | 24.3 | 22.2 | 36.2[26] | 29.2[26] | 33 |
| 14.4 | 14.3 | 14.4 | 18.1 | 16.3 | — | — | — |
| — | — | — | — | — | — | — | — |
| *71* | *71* | *71* | *84* | *84* | *20* | *20* | *51* |

*(continued)*

TABLE 2 (*continued*)

| Amino acid | Residues per 1000 residues | | | | | |
|---|---|---|---|---|---|---|
| *Protein Index No.:* | **43** | **44** | **45** | **46** | **47** | **48** |
| Glycine | 76 | 55 | 84 | 107.1 | 104.1 | 93.9 |
| Alanine | 55 | 92 | 96 | 112.0 | 115.3 | 86.4 |
| Valine | 62 | 64 | 62 | 74.3 | 69.2 | 82.0 |
| Leucine | 117 | 74 | 80 | 79.4 | 88.0 | 91.1 |
| Isoleucine | 56 | 67 | 52 | 50.4 | 40.5 | 48.5 |
| Proline | 46 | 48 | 54 | 33.5 | 30.2 | 68.2 |
| Serine | 77 | 45 | 45 | 51.5 | 53.8 | 58.6 |
| Threonine | 39 | 57 | 50 | 46.1 | 47.6 | 56.1 |
| Aspartic acid | 149 | 128 | 97 | 82.2 | 84.1 | 86.6 |
| Glutamic acid | 112 | 146 | 138 | 80.8 | 85.5 | 87.7 |
| Half-cystine | — | — | — | 17.1 | 15.5 | — |
| Methionine | 9 | 19 | 29 | 22.7 | 20.7 | 19.9 |
| Lysine | 73 | 73 | 84 | 76.3 | 76.4 | 69.5 |
| Arginine | 55 | 4 | 40 | 56.0 | 56.4 | 46.1 |
| Histidine | 17 | 23 | 20 | 9.4 | 8.4 | 24.1 |
| Phenylalanine | 23 | 45 | 41 | 63.2 | 67.8 | 39.1 |
| Tyrosine | 35 | 33 | 28 | 40.1 | 37.6 | 22.4 |
| Tryptophan | — | — | — | — | — | — |
| Amide ammonia | — | — | — | —[26a] | —[26a] | — |
| *Ref. no.:* | *51* | *51* | *48* | *2* | *2* | *94* |

(*continued*)

TABLE 2 (*continued*)

| Residues per 1000 residues | | | | | | | |
|---|---|---|---|---|---|---|---|
| **49** | **50** | **51** | **52** | **53** | **54** | **55** | **56** |
| 245.0 | 105.2 | 49.8 | 61.3 | 16.8 | 56.2 | 23.9 | 107 |
| 60.5 | 59.7 | 60.1 | 56.0 | 52.0 | 71.5 | 46.2 | 98 |
| 6.8 | 63.7 | 87.7 | 65.3 | 65.1 | 88.1 | 53.0 | 98 |
| 25.3 | 87.7 | 65.2 | 40.2 | 35.7 | 84.8 | 113.2 | 79 |
| 11.2 | 42.5 | 63.8 | 73.1 | 35.2 | 65.3 | 19.9 | 62 |
| 34.5 | 34.8 | 64.2 | 64.9 | 19.6 | 48.0 | 32.3 | 64 |
| 82.0 | 92.9 | 108.4 | 81.8 | 524.0 | 28.2 | 31.5 | 60 |
| 28.1 | 62.1 | 62.8 | 100.7 | 88.9 | 55.0 | 47.2 | 58 |
| 94.5 | 102.1 | 122.8 | 157.5 | 29.1 | 95.4 | 102.4 | 69 |
| 98.5 | 112.3 | 91.7 | 93.2 | 71.6 | 119.2 | 162.7 | 67 |
| 169.0 | 16.0 | — | — | 4.5 | — | — | 29 |
| 5.5 | 15.2 | 9.8 | 10.7 | 0 | 27.7 | 12.8 | 11 |
| 46.1 | 63.1 | — | — | 3.9 | 81.7 | 123.6 | 84 |
| 24.7 | 34.1 | — | — | 12.1 | 48.3 | 61.9 | 26 |
| 10.8 | 39.0 | — | — | 1.6 | 33.2 | 47.6 | 31 |
| 17.5 | 40.0 | 21.9 | 32.2 | 6.9 | 22.7 | 74.5 | 49 |
| 44.0 | 24.0 | 45.5 | 50.0 | 10.9 | 23.9 | 47.5 | 9 |
| — | — | — | — | — | 23.6 | — | — |
| — | —[27] | — | — | —[28] | — | —[29] | —[30] |
| *78* | *60* | *28* | *28* | *95* | *38* | *12* | *85* |

(*continued*)

TABLE 2 (*continued*)

| Amino acid | Residues per 1000 residues | | | | | |
|---|---|---|---|---|---|---|
| *Protein Index No.:* | **57** | **58** | **59** | **60** | **61** | **62** |
| Glycine | 65 | 71.6 | 72.6 | 65.4 | 60.1 | 97 |
| Alanine | 91 | 70.1 | 71.6 | 93.4 | 86.0 | 72 |
| Valine | 53 | 58.1 | 50.9 | 79.7 | 76.0 | 65 |
| Leucine | 99 | 83.1 | 75.7 | 98.4 | 94.3 | 109 |
| Isoleucine | 43 | 37.5 | 32.0 | 39.7 | 37.4 | 34 |
| Proline | 36 | 69.3 | 65.7 | 46.1 | 42.0 | 42 |
| Serine | 52 | 64.7 | 58.6 | 88.5 | 99.0 | 67 |
| Threonine | 52 | 73.8 | 72.0 | 65.3 | 61.6 | 48 |
| Aspartic acid | 93 | 94.9 | 96.9 | 100.5 | 108.0 | 96 |
| Glutamic acid | 165 | 126.5 | 136.8 | 142.5 | 141.0 | 117 |
| Half-cystine | — | 22.5 | 24.1 | — | — | 18 |
| Methionine | 11 | 21.0 | 21.1 | — | — | 23 |
| Lysine | 96 | 45.2 | 48.0 | 76.3 | 79.5 | 58 |
| Arginine | 33 | 48.1 | 58.8 | 35.2 | 26.8 | 65 |
| Histidine | 45 | 29.9 | 27.7 | 31.8 | 39.4 | 34 |
| Phenylalanine | 33 | 35.4 | 40.1 | 38.5 | 42.2 | 38 |
| Tyrosine | 32 | 49.9 | 46.1 | 20.8 | 15.3 | 24 |
| Tryptophan | 0 | — | — | — | — | — |
| Amide ammonia | — | — | — | — | — | —[31] |
| *Ref. no.:* | *62* | *44* | *44* | *44* | *44* | *82* |

(*continued*)

TABLE 2 (*continued*)

| Residues per 1000 residues | | | | | | | |
|---|---|---|---|---|---|---|---|
| **63** | **64** | **65** | **66** | **67** | **68** | **69** | **70** |
| 91 | 92 | 98 | 153.0 | 90.5 | 185.0 | 111 | 98 |
| 63 | 88 | 56 | 126.9 | 76.4 | 64.4 | 75 | 73 |
| 71 | 45 | 53 | 72.2 | 66.2 | 44.7 | 27 | 59 |
| 128 | 129 | 144 | 66.9 | 62.2 | 63.1 | 12 | 52 |
| 18 | 28 | 12 | 33.8 | 34.9 | 17.7 | 11 | 47 |
| 56 | 39 | 57 | 94.2 | 94.1 | 65.6 | 35 | 26 |
| 70 | 70 | 63 | 61.7 | 102.9 | 81.8 | 145 | 43 |
| 44 | 43 | 40 | 59.5 | 85.2 | 56.8 | 52 | 66 |
| 107 | 120 | 107 | 77.3 | 83.6 | 109.4 | 97 | 155 |
| 126 | 141 | 150 | 105.2 | 96.3 | 79.8 | 76 | 189 |
| 28 | 11 | 17 | 92.4 | 103.0 | — | 27 | 0 |
| 11 | 6 | 14 | tr[22] | 43 | 10.2 | — | 50 |
| 47 | 39 | 46 | *60.2* | 40.4 | 38.8 | 84 | 41[34] |
| 59 | 70 | 62 | *26.9* | 35.1 | 42.1 | — | *26* |
| 35 | 33 | 39 | *10.5* | 22.0 | 18.1 | 4 | *6* |
| 30 | 36 | 25 | — | 22.4 | 39.8 | — | *44* |
| 19 | 11 | 17 | — | 21.8 | 26.0 | — | *10* |
| — | — | — | — | 9.7 | — | — | *0* |
| —[32] | — | — | — | — | —[33] | — | — |
| *32* | *32* | *32* | *22* | *22* | *53* | *43* | *58* |

(*continued*)

TABLE 2 (*continued*)

| Amino acid | Residues per 1000 residues | | | | | |
|---|---|---|---|---|---|---|
| *Protein Index No.:* | **71** | **72** | **73** | **74** | **75** | **76** |
| Glycine | 92 | 109 | 98 | 80 | 90 | 82 |
| Alanine | 113 | 114 | 98 | 88 | 92 | 82 |
| Valine | 65 | 76 | 51 | 52 | 60 | 61 |
| Leucine | 94 | 81 | 94 | 96 | 101 | 88 |
| Isoleucine | 52 | 56 | 36 | 41 | 48 | 44 |
| Proline | 42 | 30 | 58 | 60 | 66 | 67 |
| Serine | 50 | 50 | 70 | 68 | 68 | 68 |
| Threonine | 54 | 45 | 68 | 64 | 56 | 70 |
| Aspartic acid | 106 | 74 | 108 | 111 | 98 | 107 |
| Glutamic acid | 114 | 71 | 114 | 138 | 112 | 118 |
| Half-cystine | — | 16.9 | 4 | 5 | 5 | 6 |
| Methionine | 17 | 26 | 24 | 28 | 26 | 23 |
| Lysine | 60 | 75 | 47 | 50 | 45 | 66 |
| Arginine | 13 | 53 | 44 | 41 | 47 | 39 |
| Histidine | 20 | 8 | 17 | 15 | 17 | 20 |
| Phenylalanine | 36 | 67 | 37 | 33 | 37 | 29 |
| Tyrosine | 26 | 49 | 32 | 29 | 31 | 30 |
| Tryptophan | — | — | — | — | — | — |
| Amide ammonia | —[35] | — | —[36] | —[37] | —[38] | —[37] |
| *Ref. no.:* | *75* | *36* | *21* | *21* | *21* | *21* |

(*continued*)

TABLE 2 (*continued*)

| Residues per 1000 residues | | | | | | | |
|---|---|---|---|---|---|---|---|
| **77** | **78** | **79** | **80** | **81** | **82** | **83** | **84** |
| 70 | 79 | 97 | 95 | 92 | 96 | 82 | 73 |
| 78 | 80 | 82 | 87 | 86 | 80 | 85 | 77 |
| 70 | 76 | 58 | 64 | 74 | 57 | 68 | 67 |
| 80 | 81 | 76 | 83 | 79 | 88 | 74 | 72 |
| 60 | 61 | 54 | 62 | 55 | 53 | 58 | 60 |
| 51 | 63 | 60 | 57 | 66 | 55 | 64 | 67 |
| 51 | 50 | 64 | 54 | 58 | 61 | 57 | 60 |
| 58 | 60 | 58 | 56 | 59 | 59 | 63 | 67 |
| 94 | 92 | 93 | 87 | 89 | 95 | 94 | 95 |
| 125 | 118 | 124 | 130 | 117 | 116 | 124 | 121 |
| 10 | 7 | 2 | 1 | 2 | 2 | 2 | 2 |
| 27 | 24 | 23 | 26 | 25 | 28 | 26 | 26 |
| 78 | 70 | 70 | 62 | 58 | 58 | 67 | 74 |
| 51 | 50 | 59 | 47 | 53 | 61 | 52 | 52 |
| 20 | 18 | 16 | 16 | 18 | 19 | 17 | 21 |
| 31 | 34 | 31 | 38 | 35 | 35 | 33 | 31 |
| 33 | 26 | 26 | 33 | 29 | 29 | 31 | 33 |
| 12 | 10 | — | — | —[42] | — | — | — |
| —[37] | —[38] | —[40] | —[41] | —[40] | —[43] | —[44] | —[41] |
| *35* | *35* | *47* | *47* | *47* | *47* | *47* | *52* |

(*continued*)

TABLE 2 (*continued*)

| Amino acid | Residues per 1000 residues | | | | | |
|---|---|---|---|---|---|---|
| *Protein Index No.:* | **85** | **86** | **87** | **88** | **89** | **90** |
| Glycine | 97 | 107 | 100 | 89 | 84 | 97 |
| Alanine | 97 | 70 | 88 | 81 | 87 | 86 |
| Valine | 69 | 58 | 63 | 69 | 59 | 59 |
| Leucine | 90 | 84 | 78 | 81 | 83 | 82 |
| Isoleucine | 53 | 59 | 54 | 53 | 62 | 62 |
| Proline | 65 | 63 | 73 | 65 | 53 | 56 |
| Serine | 55 | 57 | 55 | 60 | 51 | 52 |
| Threonine | 52 | 54 | 54 | 57 | 58 | 56 |
| Aspartic acid | 84 | 85 | 81 | 88 | 97 | 96 |
| Glutamic acid | 122 | 130 | 121 | 124 | 136 | 134 |
| Half-cystine | 2 | 2 | 2 | 2 | 2 | 1 |
| Methionine | 24 | 29 | 21 | 21 | 27 | 29 |
| Lysine | 50 | 53 | 57 | 65 | 55 | 49 |
| Arginine | 50 | 54 | 57 | 55 | 58 | 56 |
| Histidine | 16 | 17 | 19 | 21 | 16 | 14 |
| Phenylalanine | 37 | 34 | 37 | 38 | 35 | 33 |
| Tyrosine | 28 | 31 | 30 | 28 | 34 | 32 |
| Tryptophan | — | — | — | — | — | — |
| Amide ammonia | *43* | *46* | *47* | *48* | *49* | *50* |
| *Ref. no.:* | *47* | *47* | *47* | *47* | *47* | *47* |

(*continued*)

TABLE 2 (*continued*)

| Residues per 1000 residues | | | | | | | |
|---|---|---|---|---|---|---|---|
| **91** | **92** | **93** | **94** | **95** | **96** | **97** | **98** |
| 80 | 79 | 75 | 83 | 92 | 96 | 130.4 | 120 |
| 85 | 138 | 167 | 80 | 91 | 79 | 63.2 | 65 |
| 77 | 70 | 71 | 69 | 67 | 106 | 105.1 | 41 |
| 129 | 91 | 93 | 89 | 94 | 54 | 67.7 | 32 |
| 54 | 57 | 52 | 56 | 56 | 40 | 26.6 | 24 |
| 66 | 40 | 36 | 57 | 58 | 107 | 58.7 | 42 |
| 60 | 57 | 29 | 60 | 50 | 58 | 112.4 | 54 |
| 55 | 48 | 39 | 57 | 51 | 52 | 51.4 | 44 |
| 71 | 109 | 110 | 101 | 93 | 103 | 107.4 | 111 |
| 107 | 128 | 124 | 104 | 99 | 101 | 107.4 | 163 |
| 2 | 0 | 0 | 2 | 2 | 26 | 5.0 | 130 |
| 27 | 22 | 41 | 27 | 25 | — | 14.9 | 4 |
| 40 | 35 | 44 | 60 | 56 | 132 | 32.9 | 88 |
| 50 | 42 | 46 | 52 | 64 | 13 | 4.5 | 36 |
| 19 | 20 | 13 | 22 | 20 | 13 | 20.7 | 15 |
| 52 | 42 | 35 | 48 | 49 | 16 | 54.6 | 20 |
| 26 | 22 | 25 | 33 | 33 | 4 | 26.6 | 10 |
| — | — | — | — | — | — | 10.4 | — |
| *37* | *37* | *37* | *37* | *37* | *51* | — | — |
| *47* | *47* | *47* | *50* | *50* | *17* | *59* | *68* |

(*continued*)

TABLE 2 (*continued*)

| Amino acid | Residues per 1000 residues | | | | | |
|---|---|---|---|---|---|---|
| *Protein Index No.:* | **99** | **100** | **101** | **102** | **103** | **104** |
| Glycine | 80 | 63 | 62 | 55 | 50 | 58 |
| Alanine | 60 | 90 | 77 | 72 | 100 | 109 |
| Valine | 52 | 49 | 59 | 52 | 76 | 77 |
| Leucine | 63 | 69 | 64 | 68 | 25 | 25 |
| Isoleucine | 43 | 48 | 42 | 44 | 36 | 34 |
| Proline | 36 | 49 | 52 | 54 | 56 | 60 |
| Serine | 42 | 79 | 85 | 72 | 79 | 75 |
| Threonine | 51 | 45 | 52 | 55 | 86 | 78 |
| Aspartic acid | 98 | 135 | 147 | 159 | 120 | 125 |
| Glutamic acid | 111 | 92 | 96 | 92 | 96 | 103 |
| Half-cystine | 146 | 22 | 19 | 18 | 19 | 19 |
| Methionine | 16 | 5 | 2 | tr[22] | 4 | 8 |
| Lysine | 131 | 77 | 71 | *63* | 56 | 48 |
| Arginine | 27 | 35 | 34 | *30* | 32 | 31 |
| Histidine | 11 | 14 | 10 | *11* | 20 | 18 |
| Phenylalanine | 21 | 64 | 62 | *65* | 68 | 69 |
| Tyrosine | 13 | 55 | 66 | *81* | 71 | 64 |
| Tryptophan | — | — | — | — | — | — |
| Amide-ammonia | — | — | — | — | — | — |
| *Ref. no.:* | *68* | *69* | *69* | *69* | *69* | *69* |

(*continued*)

TABLE 2 (*continued*)

| Residues per 1000 residues | | | | | | | |
|---|---|---|---|---|---|---|---|
| **105** | **106** | **107** | **108** | **109** | **110** | **111** | **112** |
| 85 | 88 | 52 | 67 | 69 | 55 | 90 | 100 |
| 39 | 41 | 36 | 49 | 51 | 36 | 55 | 80 |
| 49 | 49 | 60 | 63 | 61 | 61 | 65 | 70 |
| 39 | 41 | 92 | 95 | 92 | 93 | 100 | 95 |
| 40 | 41 | 46 | 49 | 47 | 47 | 45 | 45 |
| 52 | 33 | 74 | 64 | 62 | 61 | 50 | 50 |
| 103 | 100 | 94 | 87 | 92 | 94 | 80 | 85 |
| 29 | 29 | 51 | 48 | 45 | 51 | 35 | 55 |
| 115 | 116 | 94 | 89 | 92 | 95 | 105 | 100 |
| 138 | 144 | 89 | 117 | 116 | 105 | 105 | 100 |
| 16 | 18 | 8 | 11 | 10 | 3 | — | — |
| 17 | 14 | 5 | 13 | 15 | 12 | — | — |
| 37 | 38 | 52 | 49 | 44 | 46 | 75 | 75 |
| 70 | 70 | 79 | 75 | 72 | 77 | 90 | 65 |
| 31 | 31 | 44 | 37 | 40 | 41 | 50 | 40 |
| 49 | 49 | 81 | 71 | 72 | 81 | 55 | 40 |
| 59 | 63 | 26 | 33 | 34 | 29 | — | — |
| 34 | 34 | 17 | — | — | — | — | — |
| — | — | —[54] | —[52] | — | —[53] | — | — |
| *7* | *7* | *26* | *73* | *73* | *73* | *45* | *45* |

(*continued*)

TABLE 2 (*continued*)

| Amino acid | Residues per 1000 residues | | | | | |
|---|---|---|---|---|---|---|
| *Protein Index No.:* | **113** | **114** | **115** | **116** | **117** | **118** |
| Glycine | 95 | 60 | 60 | 48 | 80 | 91 |
| Alanine | 60 | 44 | 37 | 49 | 43 | 60 |
| Valine | 65 | 58 | 60 | 54 | 49 | 62 |
| Leucine | 95 | 87 | 84 | 87 | 71 | 73 |
| Isoleucine | 45 | 47 | 53 | 53 | 56 | 28 |
| Proline | 40 | 81 | 58 | 98 | 51 | 50 |
| Serine | 90 | 103 | 124 | 95 | 64 | 71 |
| Threonine | 50 | 34 | 31 | 38 | 32 | 20 |
| Aspartic acid | 105 | 86 | 93 | 75 | 90 | 77 |
| Glutamic acid | 95 | 105 | 102 | 107 | 151 | 136 |
| Half-cystine | — | — | 10 | 0 | 19 | 10 |
| Methionine | — | 12 | 10 | 10 | 24 | 9 |
| Lysine | 75 | 48 | 40 | 55 | 45 | 42 |
| Arginine | 80 | 73 | 77 | 83 | 72 | 85 |
| Histidine | 45 | 39 | 38 | 44 | 25 | 46 |
| Phenylalanine | 60 | 76 | 85 | 76 | 51 | 42 |
| Tyrosine | — | 31 | 29 | 11 | 64 | 38 |
| Tryptophan | — | — | 11 | 10 | 12 | 61 |
| Amide ammonia | — | —[54] | —[55] | —[55] | — | — |
| *Ref. no.:* | *45* | *80* | *39* | *39* | *11* | *24* |

(*continued*)

TABLE 2 (*continued*)

| Residues per 1000 residues | | | | | | | |
|---|---|---|---|---|---|---|---|
| **119** | **120** | **121** | **122** | **123** | **124** | **125** | **126** |
| 93 | 101 | 104 | 103 | 111 | 107 | 95 | 96 |
| 42 | 58 | 56 | 59 | 64 | 55 | 60 | 41 |
| 75 | 68 | 51 | 60 | 49 | 53 | 51 | 46 |
| 50 | 64 | 54 | 54 | 54 | 57 | 52 | 50 |
| 31 | 32 | 27 | 29 | 28 | 36 | 29 | 25 |
| 68 | 34 | 68 | 65 | 65 | 64 | 68 | 59 |
| 84 | 84 | 84 | 91 | 87 | 81 | 83 | 108 |
| 34 | 37 | 29 | 29 | 29 | 40 | 31 | 32 |
| 83 | 63 | 74 | 83 | 87 | 81 | 89 | 89 |
| 158 | 154 | 155 | 153 | 146 | 141 | 154 | 146 |
| 10 | 19 | 30 | 30 | 32 | 23 | 31 | 17 |
| 10 | 8 | 17 | 17 | 19 | 14 | 11 | 16 |
| 60 | 32 | 40 | 43 | 42 | 40 | 43 | 46 |
| 50 | 70 | 60 | 60 | 65 | 59 | 67 | 87 |
| 41 | 51 | 40 | 17 | 21 | 30 | 30 | 23 |
| 40 | 66 | 49 | 51 | 45 | 55 | 51 | 42 |
| 44 | 36 | 44 | 40 | 42 | 43 | 39 | 34 |
| 30 | 36 | 19 | 19 | 14 | 12 | 22 | 48 |
| — | — | — | — | — | — | — | — |
| *24* | *24* | *98* | *98* | *98* | *98* | *98* | *98* |

*(continued)*

TABLE 2 (*continued*)

| Amino acid | Residues per 1000 residues | | | | | |
|---|---|---|---|---|---|---|
| *Protein Index No.:* | **127** | **128** | **129** | **130** | **131** | **132** |
| Glycine | 103 | 99 | 93 | 103 | 105 | 123 |
| Alanine | 53 | 57 | 52 | 52 | 63 | 60 |
| Valine | 55 | 51 | 56 | 57 | 47 | 38 |
| Leucine | 60 | 63 | 59 | 57 | 65 | 46 |
| Isoleucine | 27 | 23 | 31 | 35 | 27 | 22 |
| Proline | 63 | 57 | 51 | 53 | 49 | 47 |
| Serine | 98 | 98 | 97 | 90 | 91 | 142 |
| Threonine | 29 | 34 | 28 | 43 | 27 | 45 |
| Aspartic acid | 78 | 97 | 94 | 89 | 93 | 82 |
| Glutamic acid | 154 | 147 | 158 | 160 | 152 | 152 |
| Half-cystine | 22 | 22 | 22 | 26 | 38 | 16 |
| Methionine | 16 | 15 | 9 | 11 | 12 | 15 |
| Lysine | 45 | 53 | 52 | 50 | 42 | 43 |
| Arginine | 57 | 70 | 93 | 89 | 42 | 41 |
| Histidine | 46 | 18 | 24 | 23 | 31 | 24 |
| Phenylalanine | 44 | 44 | 44 | 50 | 50 | 36 |
| Tyrosine | 44 | 43 | 32 | 33 | 41 | 32 |
| Tryptophan | 9 | 9 | 5 | 5 | 26 | 36 |
| Amide ammonia | — | — | — | — | — | — |
| *Ref. no.:* | *98* | *98* | *98* | *98* | *98* | *98* |

*(continued)*

TABLE 2 (*continued*)

| Residues per 1000 residues | | | | | | | |
|---|---|---|---|---|---|---|---|
| **133** | **134** | **135** | **136** | **137** | **138** | **139** | **140** |
| 84 | 84 | 88 | 87 | 92 | 79 | 63 | 66.3 |
| 35 | 51 | 42 | 20 | 116 | 79 | 66 | 72.2 |
| 44 | 42 | 44 | 44 | 72 | 51 | 56 | 47.2 |
| 76 | 94 | 99 | 70 | 95 | 133 | 129 | 156.8 |
| 41 | 40 | 40 | 30 | 29 | 76 | 34 | 94.2 |
| 53 | 60 | 52 | 40 | 42 | 60 | 34 | 59.2 |
| 46 | 51 | 61 | 71 | 69 | 58 | 49 | 59.4 |
| 22 | 18 | 28 | 25 | 21 | 64 | 48 | 76.1 |
| 105 | 112 | 108 | 107 | 61 | 79 | 58 | 74.8 |
| 155 | 129 | 137 | 131 | 132 | 86 | 88 | 35.0 |
| — | — | — | 22 | — | 24 | 27 | 9.6 |
| 30 | 27 | 26 | 36 | 14 | 33 | 36 | 37.7 |
| 23 | 22 | 29 | 19 | 28 | 37 | 50 | 27.0 |
| 134 | 117 | 106 | 124 | 57 | 29 | 72 | 21.6 |
| 38 | 40 | 39 | 35 | 76 | 30 | 28 | 30.9 |
| 37 | 33 | 32 | 52 | 81 | 55 | 66 | 62.1 |
| 76 | 80 | 68 | 87 | 4 | 36 | 47 | 39.7 |
| — | — | — | — | 12 | 26 | 48 | 30.3 |
| — | — | — | —[56] | — | — | — | — |
| *13* | *13* | *13* | *90* | *86* | *97* | *97* | *89* |

*(continued)*

TABLE 2 (*continued*)

| Amino acid | Residues per 1000 residues | | | | | |
|---|---|---|---|---|---|---|
| *Protein Index No.:* | **141** | **142** | **143** | **144** | **145** | **146** |
| Glycine | 65 | 94 | 112 | 65 | 69 | 81 |
| Alanine | 91 | 102 | 81 | 76 | 102 | 112 |
| Valine | 64 | 66 | 83 | 94 | 67 | 73 |
| Leucine | 103 | 110 | 88 | 115 | 107 | 85 |
| Isoleucine | 57 | 62 | 42 | 81 | 61 | 28 |
| Proline | 47 | 47 | 42 | 49 | 54 | 75 |
| Serine | 46 | 61 | 69 | 57 | 66 | 60 |
| Threonine | 40 | 50 | 48 | 53 | 52 | 60 |
| Aspartic acid | 125 | 111 | 108 | 86 | 94 | 108 |
| Glutamic acid | 96 | 103 | 98 | 66 | 97 | 98 |
| Half-cystine | — | — | — | — | — | — |
| Methionine | 15 | 15 | 12 | 26 | 18 | 9 |
| Lysine | 71 | 72 | 81 | 44 | 49 | 62 |
| Arginine | 42 | 43 | 48 | 39 | 48 | 50 |
| Histidine | 25 | 17 | 21 | 29 | 22 | 18 |
| Phenylalanine | 66 | 41 | 35 | 84 | 52 | 37 |
| Tyrosine | 47 | 17 | 33 | 34 | 42 | 44 |
| Tryptophan | — | — | — | — | — | — |
| Amide ammonia | — | — | — | — | — | — |
| *Ref. no.:* | *31* | *31* | *31* | *31* | *93* | *93* |

(*continued*)

TABLE 2 (*continued*)

| Residues per 1000 residues | | | | | | | |
|---|---|---|---|---|---|---|---|
| **147** | **148** | **149** | **150** | **151** | **152** | **153** | **154** |
| 76 | 81 | 101 | 89 | 83.0 | 102.0 | 68.1 | 95.6 |
| 80 | 83 | 91 | 125 | 81.1 | 75.3 | 49.0 | 74.6 |
| 70 | 67 | 65 | 64 | 63.5 | 71.4 | 77.1 | 63.8 |
| 125 | 133 | 115 | 82 | 106.5 | 133.7 | 116.8 | 125.9 |
| 77 | 83 | 70 | 51 | 73.1 | 87.2 | 91.6 | 94.1 |
| 52 | 51 | 55 | 47 | 69.0 | 68.4 | 73.3 | 46.9 |
| 81 | 85 | 82 | 66 | 75.9 | 100.9 | 93.6 | 75.5 |
| 46 | 48 | 48 | 42 | 50.1 | 48 | 41.4 | 65.1 |
| 93 | 89 | 80 | 97 | 78.6 | 64.5 | 85.5 | 72.1 |
| 69 | 56 | 86 | 101 | 82.7 | 42.8 | 98.0 | 61.3 |
| — | — | — | — | — | — | — | — |
| 23 | 24 | 23 | 20 | 28.3 | 127 | 20.5 | 12.8 |
| 38 | 27 | 37 | 50 | 32.1 | 15.1 | 25.0 | 12.4 |
| 42 | 36 | 40 | 57 | 35.4 | 28.1 | 30.7 | 25.6 |
| 26 | 25 | 21 | 25 | 30.4 | 25.6 | 26.4 | 46.2 |
| 59 | 68 | 55 | 47 | 65.7 | 82.5 | 53.8 | 91.5 |
| 43 | 44 | 31 | 37 | 44.2 | 41.8 | 48.9 | 36.5 |
| — | — | — | — | — | — | — | — |
| — | — | — | — | —[57] | — | — | — |
| *93* | *93* | *93* | *93* | *92* | *92* | *92* | *92* |

(*continued*)

TABLE 2 (*continued*)

| Amino acid | Residues per 1000 residues | | | | | |
|---|---|---|---|---|---|---|
| *Protein Index No.:* | **155** | **156** | **157** | **158** | **159** | **160** |
| Glycine | 102 | 49 | 78.2 | 92.6 | 50.5 | 88.0 |
| Alanine | 90 | 49 | 81.1 | 80.5 | 45.6 | 83.9 |
| Valine | 64 | 55 | 59.7 | 61.9 | 47.9 | 57.1 |
| Leucine | 114 | 153 | 111.3 | 121.9 | 140.0 | 111.6 |
| Isoleucine | 61 | 55 | 46.2 | 58.3 | 50.0 | 41.4 |
| Proline | 55 | 55 | 54.7 | 59.1 | 62.5 | 53.1 |
| Serine | 54 | 82 | 69.7 | 66.9 | 97.8 | 73.4 |
| Threonine | 69 | 93 | 72.0 | 77.1 | 78.0 | 79.1 |
| Aspartic acid | 64 | 71 | 73.8 | 72.5 | 72.8 | 65.5 |
| Glutamic acid | 47 | 93 | 74.8 | 47.0 | 97.1 | 84.7 |
| Half-cystine | 24 | 11 | 7.2 | — | — | — |
| Methionine | 62 | 60 | 44.8 | 57.7 | 70.8 | 34.2 |
| Lysine | 21 | 27 | 48.8 | 26.0 | 33.4 | 38.3 |
| Arginine | 15 | 27 | 43.2 | 26.3 | 31.2 | 35.8 |
| Histidine | 35 | 33 | 39.0 | 37.5 | 34.6 | 49.1 |
| Phenylalanine | 83 | 38 | 60.6 | 75.1 | 37.0 | 66.3 |
| Tyrosine | 35 | 50 | 40.0 | 39.1 | 50.6 | 37.9 |
| Tryptophan | — | — | — | — | — | — |
| Amide ammonia | —[58] | — | — | — | — | — |
| *Ref. no.:* | *96* | *96* | *81* | *81* | *81* | *81* |

(*continued*)

TABLE 2 (*continued*)

| Residues per 1000 residues | | | | | | | |
|---|---|---|---|---|---|---|---|
| **161** | **162** | **163** | **164** | **165** | **166** | **167** | **168** |
| 56.4 | 77.1 | 83.3 | 30 | 74.4 | 119.8 | 148.2 | 84.1 |
| 93.9 | 88.5 | 108.3 | 92 | 88.6 | 78.2 | 70.3 | 67.7 |
| 63.8 | 64.5 | 53.5 | 54 | 79.3 | 62.6 | 53.8 | 74.3 |
| 81.3 | 92.9 | 75.6 | 113 | 10.3 | 114.7 | 85.1 | 86.9 |
| 34.1 | 48.9 | 37.8 | 41 | 63.8 | 71.9 | 65.1 | 47.1 |
| 52.4 | 74.5 | 56.0 | 78 | 48.6 | 43.2 | 43.2 | 63.7 |
| 77.6 | 47.8 | 54.4 | 63 | 60.0 | 72.2 | 80.8 | 53.3 |
| 46.2 | 54.5 | 57.1 | 60 | 54.2 | 51.2 | 48.9 | 66.2 |
| 92.8 | 109.2 | 93.8 | 73 | 88.0 | 77.6 | 81.5 | 116.7 |
| 116.3 | 119.3 | 92.8 | 81 | 84.2 | 58.5 | 91.9 | 113.1 |
| — | — | — | — | 11.1 | 14.1 | 19.3 | 14.9 |
| 25.2 | 13.5 | 21.0 | 18 | 23.8 | 32.0 | 17.4 | 19.6 |
| 103.0 | 62.4 | 70.5 | 79 | 49.5 | 43.5 | 72.0 | 80.0 |
| 44.1 | 56.2 | 70.7 | 38 | 32.0 | 22.9 | 25.1 | 31.4 |
| 26.5 | 26.8 | 30.0 | 28 | 23.7 | 21.3 | 21.1 | 21.8 |
| 44.5 | 29.9 | 57.5 | 64 | 54.3 | 62.8 | 37.9 | 21.6 |
| 44.3 | 34.0 | 36.9 | 40 | 42.0 | 34.6 | 23.8 | 25.4 |
| — | — | — | — | 21.1 | 20.8 | 14.6 | 12.8 |
| — | — | — | — | — | — | — | — |
| *81* | *81* | *81* | *81* | *67* | *67* | *67* | *67* |

(*continued*)

TABLE 2 (*continued*)

| Amino acid | Residues per 1000 residues | | | | | |
|---|---|---|---|---|---|---|
| *Protein Index No.:* | **169** | **170** | **171** | **172** | **173** | **174** |
| Glycine | 46.4 | 325 | 83.5 | 85.5 | 73 | 112 |
| Alanine | 94.6 | 105 | 37.2 | 55.4 | 52 | 93 |
| Valine | 70.3 | 20.0 | 61.5 | 69.6 | 41 | 53 |
| Leucine | 92.9 | 26.0 | 56.4 | 74.5 | 91 | 50 |
| Isoleucine | 33.3 | 11.0 | 52.2 | 42.1 | 39 | 37 |
| Proline | 43.2 | 120 | 68.4 | 61.7 | 65 | 64 |
| Serine | 56.0 | 36.6 | 85.2 | 63.5 | 48 | 92 |
| Threonine | 38.3 | 16.7 | 66.8 | 49.6 | 38 | 50 |
| Aspartic acid | 120.4 | 46.8 | 95.5 | 100.0 | 83 | 96 |
| Glutamic acid | 155.2 | 71.8 | 122.6 | 118.4 | 110 | 133 |
| Half-cystine | 13.0 | — | 57.3 | 53.6 | 0 | — |
| Methionine | 8.1 | 5.6 | 14.8 | 13.5 | 25 | 2 |
| Lysine | 66.5 | 23.7 | 64.0 | 62.8 | 97 | 89 |
| Arginine | 42.3 | 53.0 | 39.9 | 49.0 | 83 | 49 |
| Histidine | 13.9 | 5.0 | 22.9 | 26.0 | 47 | 24 |
| Phenylalanine | 50.2 | 13.6 | 28.2 | 31.8 | 59 | 20 |
| Tyrosine | 35.1 | 3.9 | 43.6 | 42.7 | 49 | 16 |
| Tryptophan | 20.4 | — | — | — | 5 | — |
| Amide ammonia | — | —[59] | — | — | — | — |
| *Ref. no.:* | *67* | *9* | *25* | *25* | *10* | *37* |

(*continued*)

TABLE 2 (*continued*)

| Residues per 1000 residues | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **175** | **176** | **177** | **178** | **179** | **180** | **181** | **182** | **183** |
| 136 | 121 | 64 | 72.5 | 74.0 | 73 | 106 | 96.6 | 75 |
| 94 | 120 | 103 | 88.5 | 91.0 | 68 | 79 | 71.7 | 76 |
| 52 | 32 | 63 | 80.0 | 85.5 | 65 | 65 | 75.7 | 71 |
| 56 | 31 | 113 | 79.7 | 78.6 | 96 | 67 | 54.5 | 103 |
| 30 | 55 | 57 | 67.4 | 71.2 | 58 | 44 | 43.8 | 52 |
| 71 | 51 | 52 | 70.7 | 73.1 | 43 | 48 | 51.1 | 24 |
| 132 | 134 | 43 | 44.9 | 46.9 | 76 | 74 | 81.9 | 61 |
| 48 | 37 | 54 | 37.0 | 36.8 | 61 | 63 | 95.7 | 52 |
| 80 | 53 | 88 | 117.0 | 113.1 | 96 | 138 | 151.7 | 110 |
| 141 | 158 | 134 | 112.0 | 108.0 | 99 | 105 | 81.3 | 131 |
| — | — | 2 | — | — | 15 | 1 | 15.5 | 9 |
| 3 | 34 | 24 | 31.7 | 18.4 | 22 | 19 | 1.4 | 17 |
| 82 | 69 | 63 | 42.1 | 43.2 | 52 | 48 | 33.9 | 66 |
| 24 | 20 | 60 | 62.2 | 62.0 | 40 | 51 | 47.2 | 52 |
| 19 | 13 | 19 | 31.0 | 30.8 | 23 | 29 | 20.7 | 21 |
| 17 | 37 | 26 | 37.9 | 39.5 | 47 | 71 | 40.7 | 45 |
| 15 | 35 | 36 | 25.8 | 28.0 | 47 | 35 | 36.7 | 27 |
| — | — | — | — | — | 22 | — | — | 14 |
| — | — | —[60] | — | — | — | — | —[61] | — |
| *37* | *37* | *77* | *66* | *66* | *83* | *65* | *79* | *63* |

[1]Less than 1 residue.
[2]Less than 2 residues.
[3]Less than 1.8 residues.
[4]This value also 19 moles or 8 moles, depending on analytical technique used (*16*).
[5]Glucosamine, 9 residues.
[6]See also Ref. *23* for additional analysis.
[7]No hexosamine found.
[8]Glucosamine, 9 residues; galactosamine, 0.
[9]Glucosamine, 20 residues.
[10]Hydroxyproline, 6 residues; hydroxylysine, 7 residues.
[11]Listed numbers are based on 963.7 residues because 1/2-cystine and tryptophan were not measured.
[12]Hydroxyproline, 8 residues.
[13]This was prepared by method B. Analyses of enzyme made by methods A and C also given.
[14]Hydroxyproline, 11.2 residues; hydroxylysine, 3 residues.
[15]Biotin: 0.523 mol/1000 amino acids or 4.23 nmol/mg protein. Phosphate: 1.21 mol/1000 amino acids or 9.83 nmol/mg protein.
[16]Sialic acid: 1.4 residues/100,000 g. Neutral carbohydrate: 30.0 residues/100,000 g. Glucosamine, 3.5 residues/100,000 g. Galactosamine: not detectable. Fucose: not detected.
[17]Glucosamine: 13 residues/1000 residues. Neutral sugar: 40 residues/1000 residues.
[18]Results of carbohydrate analyses taken as molar ratios to *N*-acetylglucosamine = 2: fucose, 0.8; mannose, 4.5.
[19]Results of carbohydrate analyses taken as molar ratios to *N*-acetylglucosamine = 2: Fucose, 1.1; mannose, 6.2.
[20]Results of carbohydrate analyses taken as molar ratio to *N*-acetylglucosamine = 2: Fucose, 1.06; mannose, 9.1.
[21]Results of carbohydrate analyses taken as molar ratios to *N*-acetylglucosamine = 2: Fucose, 0.8; mannose, 8.
[22]tr = trace
[23]*N*-Methylhistidine, 3.8 residues/1000 residues. Also given in Ref. *40* is the analysis of band 36 protein.
[24]The estimated ratio of *N*-methylhistidine to histidine is 1:7.
[25]3-Methylhistidine, 2.6 residues/1000 residues.
[26]In the reference this is listed as Thr. From its location in the list and the quantity listed it is more likely to be Tyr and I have listed it as such.
[26a]See also Ref. *4*.
[27]Glucosamine, 5.5 residues/1000; galactosamine, 0.
[28]These are the analyses made before β-elimination. Analyses are also reported for after β-elimination. There is about 85% carbohydrate consisting of mannose and a trace of glucose, glucosamine and mannose 6-phosphate. There is about 5% phosphate.
[29]There is also given in this reference (12) the amino acid ratios of albumins obtained from patients with rheumatoid arthritis compared with normals.
[30]This protein may be the same as "$h_2$" protein and as rat liver alcohol dehydrogenase.
[31]This is analysis for "gal-specific" protein. The analysis for "glc-specific" protein is given in Ref. *82*. I have listed the value for aspartic acid although it is given for asparagine in Table 5 of (*82*).
[32]This is the analysis of one pooled fraction. The analyses for two other pooled fractions given in Table 1 of Ref. *32*.
[33]Hydroxylysine, 13.8 residues; hydroxyproline, 43.0 residues.
[34]Trimethyl-lysine, 15 residues/1000 residues.
[35]Canavanine, 44 residues/1000 residues.
[36]Trace of hydroxyproline.
[37]No hydroxyproline.
[38]One residue of hydroxyproline.
[39]This connectin was prepared by one method. An analysis is given for connectin prepared by another method. The results are very similar. See also Refs. *34* and *37*.
[40]Hydroxyproline, 7 residues.
[41]Hydroxyproline, 2 residues.

[42]See also Refs. *46* and *18*.

[43]Hydroxyproline, 8 residues.

[44]Hydroxyproline, 3 residues. See also Ref. *52* for analyses of SDS-soluble and SDS-insoluble connectin.

[45]This analyses is for connectin prepared from pure myofibrils by an alkaline method. In Ref. *52* analyses for connectin prepared from pure myofibrils by a urea–SDS method and from fiber fragments by an alkaline method and by a urea–SDS method are also given.

[46]Hydroxyproline, 13 residues.

[47]Hydroxyproline, 10 residues.

[48]Hydroxyproline, 3 residues. See Ref. *49* for analyses of connectin prepared from myofibrils by alkali treatment and by urea–SDS method.

[49]Hydroxyproline, 3 residues.

[50]Hydroxyproline, 6 residues.

[51]See Ref. *70* for additional analyses for copper-binding proteins isolated from rat livers.

[52]Another analyses for α-crystallin from the eye of an older human can be found in Ref. *13*.

[53]Analyses for α-crystallin from the lens of an adolescent and a fetal human can be found in Ref. *13*.

[54]Additional analyses of calf α-crystallin may be found in Ref. *26*.

[55]Additional analyses for α-crystallin may be found in Ref. *41*.

[56]Analyses of subfractions may be found in Ref. *90*. Additional analysis may be found in Ref. *61*.

[57]The amino acid analysis of subunits 4–8 is given in Ref. *92*. This analysis was obtained by calculation from the total amino acid content of cytochrome oxidase, from the amino acid content of subunits 1, 2, and 3, and from the relative proportion of subunits to total cytochrome oxidase. See also Ref. *76*.

[58]The amino acid analyses of seven bands from gel electrophoresis of lipid depleted cytochrome oxidase are given (*96*).

[59]Hydroxyproline, 98.0 residues; hydroxylysine, 10.5 residues.

[60]The amino acid analysis of a large fragment obtained by proteolysis of the intact enzyme is given in Ref. *77*.

[61]No glucosamine or galactosamine present.

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