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[2] [3] The sequence of mRNA is determined by the DNA sequence of the genome. [4] In this context, the standard genetic code is called Table 1 of Transactions. [3] It can also appear as a DNA codon. DNA codons in such arrays are onOf the 2 211 020 amino acids in their single -letter database codes (SLC) and the appropriate DNA codons SLC amino acid DNA codons isoleucine I in Figure I, ATC, Ata Leicine L CTT, CTC, CTA, CTG, TTA, TTA, TTG Valine V gtc, GTC, GTC, GTC, GTC , GTG phenylalanine F TTT, TTC Metionine M Rema Cysteine C TGT, TGC Alanine A GCT, GCC, GCA, GCG Glycine GT, GGC, GGA, GGG Proline P CCT, CCC, CCA, CCG, CCG TREONINA, ACC, ACA, ACA, ACA, ACA, ACA, ACA, ACA ACG Serine S TCT, TCC, TCA, TCG, AGT, AGC Tyrosine Y Tat, Tac Tryptophan W TGG Glutamine Q Caa, Cag Asparagine N AAT, AAC Histidine H Cat, CAC Glutamic acid E GAA, GAG asparaginic , AAG arginine R CGT, CGC, CGA, CGG, AGA, AGG Stopkodoni Stopkodoni taa, tag, tga in this table lists the amino acids in the protein, as well as one letter code used to represent these amino acids in protein databases. The DNA codons representing each amino acid are also shown. All 64 possible DNA encoding units T, C, A and G three -letter combinations are used to encode one of these amino acids or as one of three stopcodons that signal the end of the sequence. Although DNA can clearly decipher, it is not possible to predict DNA sequences from protein sequences. Since most amino acids have several codes, many possible DNA sequences can depict the same sequence of protein. List of standard rules for transforming DNA encoded information into proteins.

TABLE 3-1	20 Primary Amino Acids in the Genetic Code				
	ABBREVIATION			ABBREVIATION	
Amino Acid	3-Letter	1-Letter	Amino Acid	3-Letter	1-Letter
Alanine	Ala	A	Leucine	Leu	L
Arginine	Arg	R	Lysine	Lys	K
Asparagine	Asn	N	Methionine	Met	M
Aspartic acid	Asp	D	Phenylalanine	Phe	F
Cysteine	Cys	C	Proline	Pro	P
Glutamic acid	Glu	E	Serine	Ser	S
Glutamine	Gln	Q	Threonine	Thr	T
Glycine	Gly	G	Tryptophan	Trp	W
Histidine	His	H	Tyrosine	Tyr	Y
Isoleucine	Ile	I	Valine	Val	V

Standard RNA Codon table arranged in a circle. The codon table can be used to convert the genetic code to the amino acid order. 1f661e1667c31.pdf The standard genetic code is traditionally displayed as a RNA Codon table, because when proteins are produced in the ribosome cell, it is the rapporteur RNA (MRNA) that guides the synthesis of protein. MRNA sequence is determined by the Genome DNA sequence. [4] In this context, the standard genetic code is called the translation table 1.
[3] It can also be displayed in the DNA Codon table. DNA codons in the following tables occurDNA chains and are arranged in the direction from 5 strokes to 3 beats. Depending on the source of the genetic code, such as the cell nucleus, mitochondria, plastide or hydrogenosomes, various alternative codon tables are used. The genetic code contains 64 different codes in the following tables: Most define the amino acid. [6] Three sequences, UAG, UGA and UAA, called Stop code [1. Note], does not cod the amino acid, but rather a signaling the release of emerging ribosomal polypeptide. In the standard code, Aug (read as methionine) can be used as a starting codon and, in combination with sequences, as the initiation factor initiates the translation. [3] [8] [9] In rare cases, boot codes may also be GUG or UUG standard code; These codons usually mark valine and leucine, but are translated into methionine or forminoin as a starting codon. The first table - the standard table - can be used to examine the appropriate amino acid or the appropriate signal if it is the beginning or end of the three nucleotide translation. The second Table, in the opposite way, works in the opposite direction: it allows you to set a possible triplet code if the amino acid is known. Because many codons can encode the same amino acid, in some cases the name of the nucleic acid of international and applied chemistry (IUPAC) is given. Translation Table 1 Standard RNA COTON TABLE TABLE BIOKEMIC PROPERTIES OF NON -COLOR AMININE ACCOS - DISCLUSION: STOP CODON * INIR: Possible code initial genetic code [1] [10] 1. Principle 1. Principle. 8da8f4da.pdf Principle 2. Principle u c a g uau (PHE/F) UCU phenylalanine (cheese/s) serine Uau (Tyr/y) Tyrosine UGU (Cys/C) Cysteine UU UCC UCC UUA C Uua C Uuu Leucin UCOAAAA (Ochra) *[Ochra) *[Ochra) * 2. Note) to stop uga (opal) *[2. Note] UGG UAG UAG STOP (Amber) *[2. Note] UCG (TRP/W) TRPTOFAN G C Cuu CCU (Pro/P) Prolin Cau (Jo/H) Histdyna CGG (Arg/R) arginine u CUC CCC CGC CGC CGC CGC CGC CAA CAA (GLN/Q) Glutamine CGA CGACUG CCA CGA CAG GG G A AUU (Ile/I) Isoleucine acu (thr/t) Treonin aau (asn/n) asparagin agu (ser/s) sergeo u ac ac ac ac ac aca aaa (lys/k) lizin aga (lys /K) arg/r) arginine A august (Met/m) methionine ACG agg g g g gu guu (val/v) valin gcu (ala/a) alanine get (asp/d) aspartic acid - ggg (gly/g) Glycine U GUC GCC GAC GGC C GUA GCA GAA (GLU/E) GLUTAMO R QUEG5TIS - GGA A GUG GCC GAG GGG G Rnr Inversijos Kodonų Lentelė Standartinė Genetinio Kodo inversijos Lentelė (Kodon's suspicion žumir žminjiMè rnr) Rnr rnr rnr) YRA SPAUSTI ALA, A GCU, GCC, GCA, GCG GCN Ile, I Auu, AUC, AUA AUH Arg, R CGU, CGC, CGA, CGG; AGA, ADD CGN, AGR; o CGY, Mgr Leu, L Cuu, Cuc, Cua, Cug, Uua, uug cun, uur; o cuy, yur asn, n aau, aac aay lys, k aaa, aag aar asp, d gav, gac gay met, mug asn o asp, b aau, aac; Gac ray phe, f uuu, uuc uuc cys, c ugu, ugc ugy pro, p ccu, ccc, ccg, ccg ccn qln, q caa, cag car ser, s ucu, ucc, uca, ucg; Agu, AGC UCN, AGY GLU, E GAA, GAG GAR THR, T ACU, ACC, ACA, ACG ACN GLN or GLU, Z CAA, CAG; GAA, GAA SAR TRP, Z UGG GLY, G GUG, GGC, GGY, GGY GGN tir, y yau, uak way ego, h ka, sas cai, v yuu, guk, gua, gug pushka Ag Stop UAA , UGA, UAG URA, UAR Standard DNA DNA Codon Chart Biochemical properties of amino acids do not sting basal acid - end: stop codon * inir: possible start standard genetic code [14] [14] [Note 3] [Note 3] [Note 3] [Note 3] [Note 3] [Note 3] [Note 3] [Note 3] [Note 3] [Note 3] [Note 3] [Note 3] [Note 3] [Note 3] [Notes] 1 base 2 base 3 base 3 base T C A G T TTT (PHE / F) Phenylalanine TCT (SER/S) Serin Tat (Tyr/Y) Tyrosine TGT (CYS/C) Cysteine TTC TCC TAC TAC TGC C TTA (Leu/L) Leucine TCA TAA STOP (OCHRA) *[Note 2] TGA STOP (OPAL OPAL) *[Note 2] A TTG TCG TAG STOP (Yellow) *[Note 2] TGG (TRP/W) TRPTOFAN G CTT CCT (Pro/P) Prolin Cat (His/H) histidine CGT (arg/R)) Arginine) Arginine T CTC CCC CCC CGC C CA CAA CAA (GLN/Q) Glutamine CGA A CGA CG CG CGG CGG GG G ATT (Ile/i) Isoleucina GCT (thr/t) Treonin Aat (asn/n) asparagin agt (ser/s))) serinin t atc Acc aac aac c ata aaa (lys/ k) lysine aga (arg/r) Arginine A (Met/M) MessininAAG AGG G G GTT (Val/V) Valine GCT (Ala/a) Aspartic acid å GGT (Gly/G) Glycine T GTC GCC GAC GGC C GTA GCA GAA (Glu/E) Glutamic acid å GGA A GTG GCG GAG GGG G Table of Inverted Standard Genetic Codes (compressed using IUPAC notation)[13] Truncated Amino Acid DNA Codons Truncated Amino Acid DNA Codons Ala, A GCT, GCC, GCA, GCG GCN Ile, I ATT, ATC, ATA ATHArg, RCGT, CGC, CGA, CGG; AGA, AGG, CGN, EGR; or CGY, MGR Leu, L CTT, CTC, CTA, CTG; TTA, TTG, CTN, TTR; or CTY, YTR Asn, N AAT, AAC AAY Lys, K AAA, AAG AAR Asp, D GAT, GAC GAY Met, M ATG Asn or Asp, B AAT, AAC; GAT, GAC RAY Phe, F TTT, TTC TTY Cys, C TGT, TGC TGY Pro, P CCT, CCC, CCA, CCG CCN Gln, Q CAA, CAG CAR Ser, S TCT, TCC, TCA, TCG; AGT, AGC TCN, AGY Glu, E GAA, GAG GAR Thr, T ACT, ACC, ACA, ACG ACN Gln or Glu, Z CAA, CAG; GAA, GAG SAR Trp, W TGG Gly, G GGT, GGC, GGA, GGG GGN Tyr, Y TAT, TAC TAY His, H CAT, CAC CAY Val, V GTT, GTC, GTA, GTG GTN START ATG STOP TAA, TGA , TAG TRA, TAR Alternative codons in other translation tables Further information: List of genetic codes The genetic code was once thought to be universal:[16] A codon would code for the same amino acid regardless of the organism or the source. However, there is consensus that the genetic code evolves[17] so that a codon is translated differently depending on the genetic source.[16][17] For example, in 1981, it was found that the usage of AUA, UGA, AGA, and AGG codons in the mammalian mitochondrial coding system differed from the universal code.[16] Stop codons may also be affected: the ciliated universal stop codons UAA and UAG code for glutamine.[17][4. Note] The following table lists these alternative codons. Biochemical properties of amino acids Polar nonpolar basic acid Termination: stop codon *Comparison of codon translations using alternative and standard codes[3The standard code for standard 1 is Table 8 (plant chloroplasts). Mitochondrial circle 2 Aga aga stop * arg (r) agg agg stop * arg (r) ata aua Met (M) Ile (i) tga UGA TRP (W) Stop * yeast mitochondrial 3 ata aua Met (M) ILE (I) (i) ctt cuu thh (t) leu (l) ctc cuc throp (t) leu (l) cua cua thu (t) leu (l) ctg cug Thr (Stop * CGA CGA CGA No Arg (R) CGC CGC No ARG (R) Form, produced and mitochondrial + Mycoplasma / Spiroplasma 4 TGA UGA TRP (W) Stop *includes Translation Table 7 (kinetoplasty) Mitochondria -vertebrate 5 Aga Aga Sers (S) Arg (R) Agg Agers (S) Arg (R) Ata Aua Met (M) Ile (I) TGA UGA ZG (W) Stop * ciliatansIn (q) Stop * Tag Uag Gln 1 Translation Table Alternate Nuclear Yeast 12 CTG CUG SERS (S) LEU (L) ASCIDIC MITOCHondria 13 Aga Aga Gly (G) Arg (R) Agg Agg Gly (G) Arg (R) Ata Au Met (M) ILE (I) TGA UG (UG (G) Aga (R) Au Met (M) Ile (i) tga ug (w) stop * alternative mitochondrial 14 aaa aaa aaa asn (n) lys (k) aga ser (s) arg (r) agg ser (S) Arg (r) taa uaa tyr (y) stop * tga ug(w)stop*nuclear blekarisma 15 tag UAG Q(q)stopha of November 2016 18: Not in NCBI update. As for Translation Table 6 Table 6 .

Chlorphycean mitochondrial 16-day uag leu (l) stop * trematodo mitochondrial 21 tga UGA suffer tca uca stop * cheese (s) tag uag leu (l) stop * thrustochytrium mitochondrial 23 TTA UUA Stop * leu (l) Similar to translation table 11 . Pterobranchia Mitochondrial 24 Aga Aga ser (S) Arg (R) Agg Agg Lys (K) Arg (R) TGA UGA TRP (W) Stop * Candidate Section SR1 and25 TGA UGA Gly (G) Stop * Kondria (l) can (L) Nuclear Caryotene 27 TAA UAA Gln (Q) Bond * TAG UAG Gln (Q) Bond * TG UGA Stop * or Trp (W)) Alloy * Condylostoma Nuclear Alloy 28 TAA UAA * or Gln Alloy (Q) * TAG UAG Stop * or Gln Alloy (Q) * TGA UGA Alloy * or Trp Alloy (W) * Nuclear Mesodinium 29 TAA UAA Tyr Alloy (Y) * TAG UAG Tyr (Y) Alloy * Nuclear Peritrich 30 TA SAU Glu (E) - Stop * TAG UAG Glu (E) - Stop * Nuclear Blastocritidia 31 TAA UAA Stop * or Glu (E) - Stop * TAG UAG Stop * or Glu (E) å Stop * TGA UGA Trp (W) Stop * Cephalodiscidae Mitochondrial Code 33 AGA AGA Ser (S) Arg (R) Similar to translation table 24. ADJ ADJ Lys (K) Arg (R) TAA UAA Tyr (Y) Stop * TGA UGA Trp (W) Stop * See also Biology Portal Evolutionary Biology Portal Bioinformatics List of Genetic Codes Notes ^ Each stop codon has a specific name: UAG is amber, UGA is opal or umbra, and UAA is protection.[7]]] in DNA these stop codons are TAG, TGA and TAA. ^ a b c d e f The historical basis for labeling stop codons such as amber, ocher, and opal is described in Sydney Brenner's autobiography [11] and in a historical article by Bob Edgar. [12] ^ The main difference between DNA and RNA is that thymine (T) is only present in DNA. It is replaced by uracil (U) in RNA.[15] This is the only difference between the standard RNA codon table and the standard DNA codon table. ^ Euplotes octacarinatus is an exception. References ^ a b "Translation table of amino acids". optics 5th edition pdf Oregon State University. Archived from the original on 2020 May 29. Retrieved 2020 December 2 ^ ab Bartee, Lisa; Brook, Jack. MHCC 112 Biology: Biology for the Health Professions. Open Oregon. Page 42. 8508557.pdf Archived from the original on 2020 December 6. Retrieved 2020 December 6. ^ a b c d e Elzanowski A, Ostell J (7 January 2019). "Genetic Codes". National Biotechnology Information Center. diccionario de la real academia espanola pdf Archived from the original on 2020 October 9. Retrieved 2019 February 21 ^ "RNALegs. Natural education. Archived from the original on October 18, 2008. Obtained January 5, 2021. ^ "Genetic codes". National Biotechnology Information Center. Archived from the original on May 13, 2011. Obtained on 2 December 2020. ^ "Codon". National Human Genome Research Institute. 2550829.pdf Archived from the original on October 22, 2020.

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1-Letter Abbreviation	3-Letter Abbreviation	Amino Acid	Numerical Codons
A	Ala	Alanine	421, 422, 423, 424
B	~	~	~
C	Cys	Cysteine	143, 142
D	Asp	Aspartic acid	431, 432
E	Glu	Glutamic acid	433, 434
F	Phe	Phenylalanine	111,112
G	Gly	Glycine	441, 442, 443, 444
H	His	Histidine	231, 232
I	Ile	Isoleucine	311, 312, 313
J	Stop	Opal	143
K	Lys	Lysine	333, 334
L	Leu	Leucine	113, 114, 211, 212, 213, 214
M	Met (Start)	Methionine	314
N	Asn	Asparagine	331, 332
O	~	~	~
P	Pro	Proline	221, 222, 223, 224
Q	Gln	Glutamine	233, 234
R	Arg	Arginine	241, 242, 243, 244, 343, 344
S	Ser	Serine	121, 122, 123, 124, 341, 342
T	Thr	Threonine	321, 322, 323, 324
U	~	~	~
V	Val	Valine	411, 412, 413, 414
W	Trp	Tryptophan	144
X	Stop	Ochre	133
Y	Tyr	Tyrosine	131, 132
Z	Stop	Amber	134

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