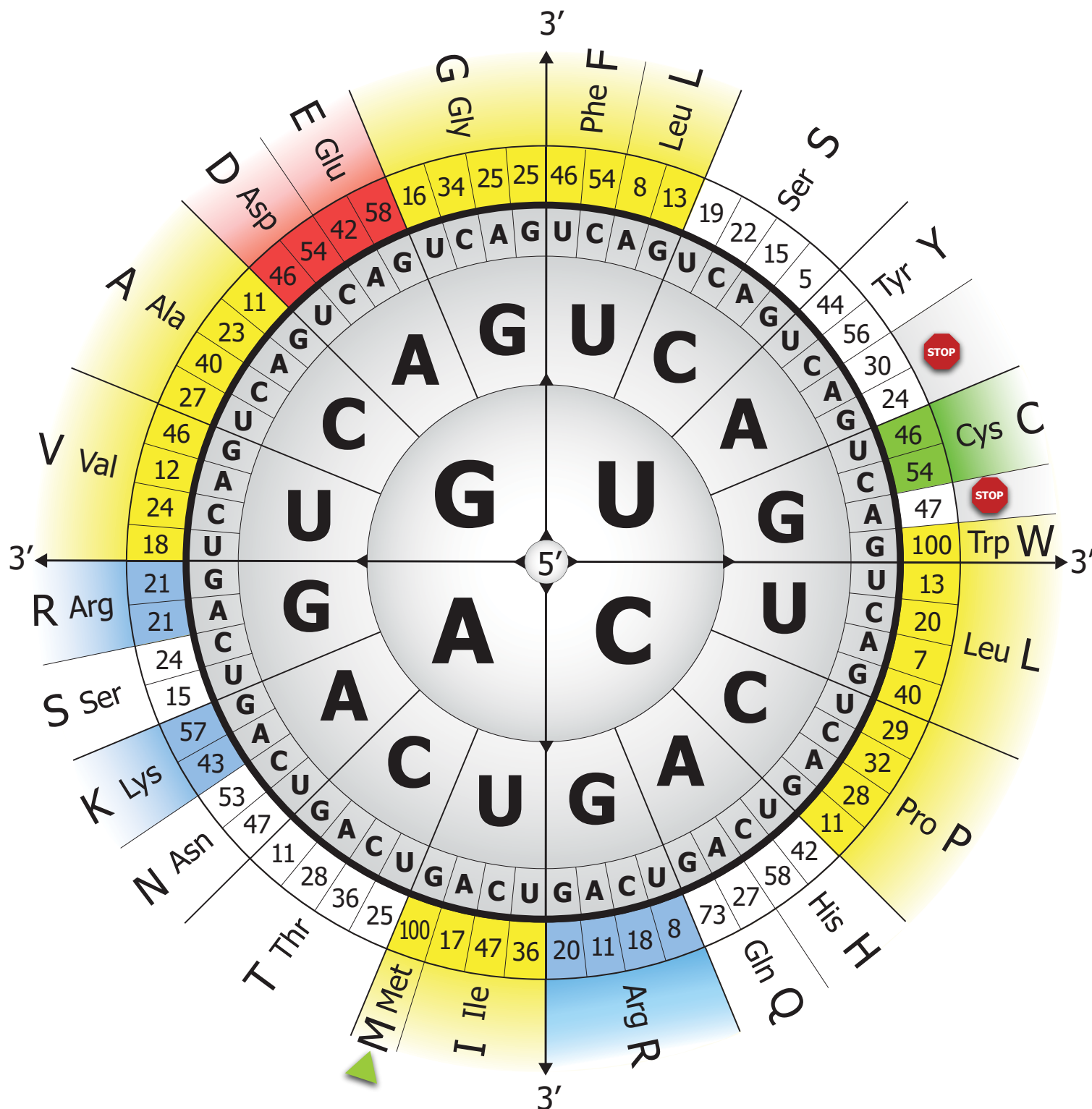


The Genetic Codon Circle®



Amino Acid Properties

- ▶ Translation Start Codon
- ◻ Hydrophilic / Polar
- ◼ Hydrophobic / Non-Polar
- ◼ Cysteine
- ◼ Translation Stop Codon
- ◼ Negative Charge
- ◼ Positive Charge

100 Codon Optimization Percentages



3dmoleculardesigns.com

© 2024 3D Molecular Designs. All Rights Reserved. Version 5.0 073124

The Genetic Codon Chart[®]

	U	C	A	G	
U	UUU → Phe F 46	UCU → Ser S 19	UAU → Tyr Y 44	UGU → Cys C 46	U
	UUC → Phe F 54	UCC → Ser S 22	UAC → Tyr Y 56	UGC → Cys C 54	C
	UUA → Leu L 8	UCA → Ser S 15	UAA → Stop 30	UGA → Stop 47	A
	UUG → Leu L 13	UCG → Ser S 5	UAG → Stop 24	UGG → Trp W 100	G
C	CUU → Leu L 13	CCU → Pro P 29	CAU → His H 42	CGU → Arg R 8	U
	CUC → Leu L 20	CCC → Pro P 32	CAC → His H 58	CGC → Arg R 18	C
	CUA → Leu L 7	CCA → Pro P 28	CAA → Gln Q 27	CGA → Arg R 11	A
	CUG → Leu L 40	CCG → Pro P 11	CAG → Gln Q 73	CGG → Arg R 20	G
A	AUU → Ile I 36	ACU → Thr T 25	AAU → Asn N 47	AGU → Ser S 15	U
	AUC → Ile I 47	ACC → Thr T 36	AAC → Asn N 53	AGC → Ser S 24	C
	AUA → Ile I 17	ACA → Thr T 28	AAA → Lys K 43	AGA → Arg R 21	A
	AUG → Met M 100	ACG → Thr T 11	AAG → Lys K 57	AGG → Arg R 21	G
G	GUU → Val V 18	GCU → Ala A 27	GAU → Asp D 46	GGU → Gly G 16	U
	GUC → Val V 24	GCC → Ala A 40	GAC → Asp D 54	GGC → Gly G 34	C
	GUA → Val V 12	GCA → Ala A 23	GAA → Glu E 42	GGA → Gly G 25	A
	GUG → Val V 46	GCG → Ala A 11	GAG → Glu E 58	GGG → Gly G 25	G

Amino Acid Properties

 Translation Start Codon	 Hydrophobic / Non-Polar	 Positive Charge	 Cysteine
 Translation Stop Codon	 Hydrophilic / Polar	 Negative Charge	

25
50
75
100

Codon Optimization Percentages



3dmoleculardesigns.com

© 2024 3D Molecular Designs. All Rights Reserved.
2009, 2014, 2018 Version 5.0 073124