

Amino Acids in the Protein Cytochrome C

Note: Letters in boldface represent amino acids that are identical in all species. Asterisks represent positions that do not have an amino acid present, so when comparing two species' sequences, count as a difference any position in which one species has a letter and the other has an asterisk.

Amino Acid Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	→
Human	*	*	*	*	*	*	*	*	G	D	V	E	K	K	K	I	F	I	M	K	C	S	Q	C	H	T	V	E	K	G	G	K	H	K	T	G	P	N	L	H	G	L	F	G	R	K	T	G	Q	A	P	G	Y	S	Y		
Tuna	*	*	*	*	*	*	*	*	G	D	V	A	K	K	K	T	F	V	Q	K	C	A	Q	C	H	T	V	E	N	G	G	K	H	K	V	G	P	N	L	W	G	L	F	G	R	K	T	G	Q	A	E	G	Y	S	Y		
Gray whale	*	*	*	*	*	*	*	*	G	D	V	E	K	K	K	I	F	V	Q	K	C	A	Q	C	H	T	V	E	K	G	G	K	H	K	T	G	P	N	L	H	G	L	F	G	R	K	T	G	Q	A	V	G	F	S	Y		
Snapping turtle	*	*	*	*	*	*	*	*	G	D	V	E	K	K	K	I	F	V	Q	K	C	A	Q	C	H	T	V	E	K	G	G	K	H	K	T	G	P	N	L	N	G	L	I	G	R	K	T	G	Q	A	E	G	F	S	Y		
Rhesus monkey	*	*	*	*	*	*	*	*	G	D	V	E	K	K	K	I	F	I	M	K	C	S	Q	C	H	T	V	E	K	G	G	K	H	K	T	G	P	N	L	H	G	L	F	G	R	K	T	G	Q	A	P	G	Y	S	Y		
Chicken, Turkey	*	*	*	*	*	*	*	*	G	D	V	E	K	K	K	I	F	V	Q	K	C	S	Q	C	H	T	V	E	K	G	G	K	H	K	T	G	P	N	L	H	G	L	F	G	R	K	T	G	Q	A	E	G	F	S	Y		
Neurospora	*	*	*	*	*	G	F	S	A	G	D	S	K	K	G	A	N	L	F	K	T	R	C	A	E	C	H	G	E	G	N	L	T	Q	K	I	G	P	A	L	H	G	L	F	G	R	K	T	G	S	V	D	G	Y	A	Y	
Pig, cow, sheep	*	*	*	*	*	*	*	*	G	D	V	E	K	K	K	I	F	V	Q	K	C	A	Q	C	H	T	V	E	K	G	G	K	H	K	T	G	P	N	L	H	G	L	F	G	R	K	T	G	Q	A	P	G	F	S	Y		
Baker's yeast	*	*	*	T	E	F	K	A	G	S	A	K	K	A	T	L	F	K	T	R	C	E	L	C	H	T	V	E	A	G	G	P	H	K	V	G	P	N	L	H	G	I	F	G	R	H	S	G	Q	A	Q	G	Y	S	Y		
Silkworm moth	*	*	*	G	V	P	A	G	N	A	E	N	K	K	I	F	V	Q	R	C	A	Q	C	H	T	V	E	A	G	G	P	H	K	V	G	P	N	L	H	G	I	F	S	R	H	S	G	Q	A	Q	G	Y	S	Y			
Candida	*	*	*	P	A	F	E	O	S	A	K	K	A	T	L	F	K	T	R	C	A	E	C	H	T	V	E	A	G	G	P	H	K	V	G	P	N	L	H	G	I	F	S	R	H	S	G	Q	A	Q	G	Y	S	Y			
Screwworm fly	*	*	*	G	V	P	A	G	D	V	E	K	K	K	I	F	V	Q	R	C	A	Q	C	H	T	V	E	A	G	G	K	H	K	V	G	P	N	L	H	G	L	F	G	R	K	T	G	Q	A	A	G	F	A	Y			

	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112
Human	T	A	A	N	K	G	I	W	G	E	T	L	M	E	Y	L	E	N	P	K	K	Y	I	P	G	T	K	M	I	F	V	G	I	K	K	E	E	R	A	D	L	I	A	Y	L	K	K	A	T	N	E					
Tuna	T	D	A	N	K	S	K	G	I	V	W	N	D	T	L	M	E	Y	L	E	N	P	K	Y	I	P	G	T	K	M	I	F	A	G	I	K	K	G	E	R	Q	D	L	V	A	Y	L	K	S	A	T	S	*			
Gray whale	T	D	A	N	K	N	K	G	I	T	W	G	E	T	L	M	E	Y	L	E	N	P	K	Y	I	P	G	T	K	M	I	F	A	G	I	K	K	G	E	R	A	D	L	I	A	Y	L	K	K	A	T	N	E			
Snapping turtle	T	E	A	N	K	N	K	G	I	T	W	G	E	T	L	M	E	Y	L	E	N	P	K	Y	I	P	G	T	K	M	I	F	V	G	I	K	K	E	E	R	A	D	L	I	A	Y	L	K	K	A	T	N	E			
Rhesus monkey	T	A	A	N	K	G	I	T	W	G	E	T	L	M	E	Y	L	E	N	P	K	Y	I	P	G	T	K	M	I	F	A	G	I	K	K	S	E	R	V	D	L	I	A	Y	L	K	D	A	T	S	K					
Chicken, Turkey	T	D	A	N	K	G	I	T	W	G	E	T	L	M	E	Y	L	E	N	P	K	Y	I	P	G	T	K	M	I	F	A	G	I	K	K	M	A	F	G	L	K	K	D	R	N	D	I	T	F	M	K	E	A	T	A	*
Neurospora	T	D	A	N	K	G	I	T	W	D	E	N	T	L	F	E	Y	L	E	N	P	K	Y	I	P	G	T	K	M	I	F	A	G	I	K	K	E	R	E	D	L	I	A	Y	L	K	K	A	T	N	E					
Pig, cow, sheep	T	D	A	N	K	G	I	T	W	G	E	E	T	L	M	E	Y	L	E	N	P	K	Y	I	P	G	T	K	M	I	F	A	G	I	K	K	E	R	E	D	L	I	A	Y	L	K	K	A	T	N	E					
Baker's yeast	T	D	A	N	K	A	K	G	I	T	W	G	D	D	T	L	F	E	Y	L	E	N	P	K	Y	I	P	G	T	K	M	I	F	A	G	L	K	K	A	N	E	R	A	D	L	I	A	Y	L	K	E	S	T	K	*	
Silkworm moth	T	D	A	N	K	R	A	G	V	E	W	A	E	P	T	M	S	D	Y	L	E	N	P	K	Y	I	P	G	T	K	M	I	F	A	G	L	K	K	A	K	D	R	N	D	L	V	T	Y	M	L	E	A	S	K	*	
Screwworm fly	T	N	A	K	A	K	G	I	T	W	Q	D	D	T	L	F	E	Y	L	E	N	P	K	Y	I	P	G	T	K	M	I	F	A	G	L	K	K	P	N	E	R	G	D	L	I	A	Y	L	K</							