

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	*	*	*	P	A	P	F	E	O	G	S	A	K	K	A	T	L	F	K	T	R	C	A	E	C	H	T	I	E	A	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	*	*	*	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			
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			

Amino Acid Position	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	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	E	T	L	M	E	Y	L	E	N	P	K	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	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		
Rhesus monkey	T	A	N	K	N	K	G	I	T	W	G	E	D	T	L	M	E	Y	L	E	N	P	K	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	Q	K	G	I	T	W	G	E	D	T	L	F	E	Y	L	E	N	P	K	K	Y	I	P	G	T	K	M	I	F	A	G	I	K	K	D	R	N	D	I	I	T	F	M	K	E	A	T	A	*			
Neurospora	T	D	A	N	K	Q	K	G	I	T	W	D	E	N	T	L	F	E	Y	L	E	N	P	K	K	Y	I	P	G	T	K	M	I	F	A	G	I	K	K	G	E	R	E	D	L	I	A	Y	L	K	K	A	T	N	E		
Pig, cow, sheep	T	D	A	N	K	N	K	G	I	T	W	G	E	E	T	L	M	E	Y	L	E	N	P	K	K	Y	I	P	G	T	K	M	I	F	A	G	I	K	K	G	E	R	E	D	L	I	A	Y	L	K	K	A	T	N	E		
Baker's yeast	T	D	A	N	K	N	K	V	L	W	D	E	N	N	S	E	Y	L	T	N	P	K	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	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	*	
Candida	T	N	A	K	A	K	G	I	T	W	Q	D	D	T	L	F	E	Y	L	E	N	P	K	K	Y	I	P	G	T	K	M	<																									