

hemoglobin_subunit_delta	.....	MVHLTPEEKSAVYNNALWGKVN..VDVAVGGEALGRLLVVVYPWTKQRF	43
hemoglobin_subunit_beta	.....	.....	43
hemoglobin_subunit_gamma-2	.....	MGHFTEEDKATITSLWGKVN..VEDAGGETLGRLLVVYPWTKQRF	43
hemoglobin_subunit_gamma-1	.....	MGHFTEEDKATITSLWGKVN..VEDAGGETLGRLLVVYPWTKQRF	43
hemoglobin_subunit_epsilon	.....	MVHFTAEEKAAVTSLSKMN..VEEAGGEALGRLLVVVYPWTKQRF	43
hemoglobin_subunit_alpha	.....	MVLSPADKTNVKAAGKVGAGHEYGAEALERMFLSFPITTKTYF	44
hemoglobin_subunit_theta-1	.....	MALSAEDRALVRLKKLGSNVGYTTEALERTFLAFPAKTYF	44
hemoglobin_subunit_zeta	.....	MSLTKTETIIVSMWAKISTQADITGETELRLFLSHPOTKTYF	44
hemoglobin_subunit_mu	.....	MLSAQERAQAQVWDLIAGHEAQFGAELLRLFLFTVYVSTKVVYF	43
cytoglobin	MEKVPGE	MEIERRERSEELSEARKVAQMWARLYANCEDVGVAILRFRFFVNFPSAKQYF	60
myoglobin	.....	MGLSDGEWQLVLNVWCKVVEADIPGHQGVILIRLFKGFHETLEKF	44
neuroglobin	.....	.....MERPEPELIRQSRWAVRSRSPLEHGTVLFARLFALERDILLPLF	42

hemoglobin_subunit_delta	ESFG.DLSSPD	AVMGNPKVKAHGKKVLGAFSDGLAHLND...LKGFTFSQ	LSELHCDKLVH	99
hemoglobin_subunit_beta	ESFG.DLSTPD	AVMGNPKVKAHGKKVLGAFSDGLAHLND...LKGFTFATL	LSELHCDKLVH	99
hemoglobin_subunit_gamma-2	DSFG.NLSSA	AIMGNPKVKAHGKKVLSLGDAIKHLDD...LKGTFAL	LSELHCDKLVH	99
hemoglobin_subunit_gamma-1	DSFG.NLSSA	AIMGNPKVKAHGKKVLSLGDATKHLDD...LKGTFAL	LSELHCDKLVH	99
hemoglobin_subunit_epsilon	DSFG.NLSSP	SAILGNPKVKAHGKKVLSFGDAIKNMDN...LKPAPAFK	LSELHCDKLVH	99
hemoglobin_subunit_alpha	PHF..DLSH...	GSAQVKHGKKVADALNAVAHVD...MPNALSAL	SDLFAHKLRV	94
hemoglobin_subunit_theta-1	SHL..DLSL...	GSSQVRAHQKVDALSLAVERLDD...LPHALSAL	SHLACQLRV	94
hemoglobin_subunit_zeta	PHF..DLHP...	GSAQLRAHGSKVVAAVGDAVKSIDD...IGGALS	KLSELHAYILRV	94
hemoglobin_subunit_mu	PHL..SACQ...	DATQLLHGQRMLAAVGAAVQHVND...LRAALSP	LADLHALVLRV	93
cytoglobin	SQFK.HMEDP	LEMERSQLLRKHACRVMGALNTVVENLHDPDKVSSV	LALVYGKHALKHKV	119
myoglobin	DKFK.HL	KSEDEMKASEDLKKGATVLTALGGILKKGKH...HEAEIKP	LAQSHATKHKI	100
neuroglobin	QYNCRF	SSPEDCLSSPEFLDHIRKVMVLVIDAAVTNVEDLSS	LEEYLASLGRKFR.AVGV	101

hemoglobin_subunit_delta	DPENFRLLGNV	LVCVLA	RNFGEFT	TPQM	QAA	YQKV	VAGVAN	ALAHKYH	.....	147														
hemoglobin_subunit_beta	DPENFRLLGNV	LVCVLA	HFGKEFT	TPPV	QAA	YQKV	VAGVAN	ALAHKYH	.....	147														
hemoglobin_subunit_gamma-2	DPENFKLLGNV	LVTVLA	IHFGEFT	PVEV	QAS	WQK	MVTG	VASALSSRYH	.....	147														
hemoglobin_subunit_gamma-1	DPENFKLLGNV	LVTVLA	IHFGEFT	PVEV	QAS	WQK	MVTAVASALSSRYH	.....	147															
hemoglobin_subunit_epsilon	DPENFKLLGNV	VIILAT	HFGKEFT	PVEV	QAA	WQK	LVSAVA	IALAHKYH	.....	147														
hemoglobin_subunit_alpha	DPVNFKLLSHCL	LVTLAA	HPAET	TPAV	HAS	LDK	FLASV	STVLT	SKYR	.....	142													
hemoglobin_subunit_theta-1	DPASVQLLSHCL	LVTLAR	HYPGD	FPAL	QAS	LDK	FLSHV	SALVSEYR	.....	142														
hemoglobin_subunit_zeta	DPVNFKLLSHCL	LVTLAAR	FPADFT	AEA	AAW	DK	FLSV	VSSVLT	TEKYR	.....	142													
hemoglobin_subunit_mu	DPANFPLLIIQCF	HVVLASH	LQDEF	ITVQ	QAA	WDK	FLTG	VAVVLT	TEKYR	.....	141													
cytoglobin	EPVYFKIL	SGVILE	VVAEEF	ASD	FP	PET	QRAW	AKLRGLI	YSHVTAAYKEV	GWVQV	PNAT	179												
myoglobin	PVKYLEF	I	SECI	IQV	L	QSK	HPG	FGAD	AQ	GMN	KAL	FRK	DMA	SNY	KEL	GFQ	.....	154						
neuroglobin	KLSSF	STV	GES	LLYML	LEK	CL	GP	AF	TP	A	RA	AW	SQ	L	Y	GA	V	VQ	A	MSR	GW	DGE	.....	151

hemoglobin_subunit_delta	.....	147
hemoglobin_subunit_beta	.....	147
hemoglobin_subunit_gamma-2	.....	147
hemoglobin_subunit_gamma-1	.....	147
hemoglobin_subunit_epsilon	.....	147
hemoglobin_subunit_alpha	.....	142
hemoglobin_subunit_theta-1	.....	142
hemoglobin_subunit_zeta	.....	142
hemoglobin_subunit_mu	.....	141
cytoglobin	TPPATLPSSGP	190
myoglobin	.....	154
neuroglobin	.....	151

non conserved  
 ≥ 50% conserved  
 all match

Figure 1: Protein MSA with Similarity Highlighting