

CN-I	[	A292V	G308E	R336W	Q357R	A368T	S375F	S381R	P387R	G395V	A401P
CN-II	[	I294T	M310V	R336Q		I370V			P387S		
Gilbert	[			Q331R R336L	W354R		H376R			N400D	R403C
						P364L	G377V				
						R367G					

Human	EFEAYINASGEHGIVVF	SLGSM	VS	EIPEKKAMAIADALGKIPQTVLWRYTGTRPSNLANNTILV	KWLPQNDLLGHPMTRAFIT	HAGSHGV	YES	ICNGVPMVMMP	FGDQMD	NAKRMETK		
Chimpanzee	EFEAYINASGEHGIVVF	SLGSM	VS	EIPEKKAMAIADALGKIPQTVLWRYTGTRPSNLANNTILV	KWLPQNDLLGHPMTRAFIT	HAGSHGV	YES	ICNGVPMVMMP	FGDQMD	NAKRMETK		
Rhesus Monkey	EFEAYINASGEHGIVVF	SLGSM	VAE	IPEKKAMAIADALGKIPQTVLWRYTGTPPSNLANNTILV	KWLPQNDLLGHPKTRAFIT	HSGSHCT	IYEG	ICNGVPMVMMP	FGDQMD	NAKRMETR		
Baboon	EFEAYINASGEHGIVVF	SLGSM	VAE	IPEKKAMAIADALGKIPQTVLWRYTGTPPSNLANNTILV	KWLPQNDLLGHPMTRAFIT	HAGSHCT	IYEG	ICNGVPMVMMP	FGDQMD	NAKRMETK		
Dog	EFEAYVNASGEHGIVVF	SLGSM	VSD	IPEKKAMEIADALGKIPQTVLWRYTGTPPNLSKNTILV	KWLPQNDLLGHPKARAFIT	HSGSHCT	IYEG	ICNGVPMVMLPL	FGDQMD	NAKRMETR		
Cow	EFEAYVNASGEHGIVVF	SLGSM	VS	EIPEQKAMEIADALGKIPQTVLWRYTGTPPNLAKNTKLV	KWLPQNDLLGHPKTRAFIT	HSGSHCT	IYEG	ICNGVPMVMMP	FGDQMD	NAKRMETR		
Mouse	EFEAYVNASGEHGIVVF	SLGSM	VS	EIPEKKAMEIAEALGRIPQTVLWRYTGTRPSNLAKNTILV	KWLPQNDLLGHPMTRAFIT	HAGSHCT	IYEG	ICNGVPMVMMP	FGDQMD	NAKRMETK		
Rat	EFEAYVNASGEHGIVVF	SLGSM	VS	EIPEKKAMEIAEALGRIPQTVLWRYTGTRPSNLAKNTILV	KWLPQNDLLGHPKARAFIT	HSGSHCT	IYEG	ICNGVPMVMMP	FGDQMD	NAKRMETR		
Opossum	EFEAYVNASGEHGVVVF	SLGSM	VS	EIPMAKAMEIAEALGTIPQTVLWRYTGKPPSNLAKNTKLV	KWLPQNDLLAHPKARAFIT	HAGSHCT	IYEG	ICNGVPMVLMPL	FGDQMD	NAKRMESR		
Chicken	EFEAIVNASGEHGIVVF	SLGSM	VS	EIPMKKAMEIADALGSPQTVLWRYTGEVPPNLPKNVKLV	KWLPQNDLLAHPKTRAFIT	HGGSHGV	YEG	ICNAVPMVLMPL	FGDQMD	NAKRVESR		
Frog	EFEKLVNSSGEHGFVVF	SLGSM	VS	EIPMNKAMDIAEALKSIPQKVFWRYTGKAPPNLGENTHLV	KWLPQNDLLAHPKARAFIT	HAGSHCT	IYEG	ICNAVPMVMMP	FGDQMD	NAKRIESR		
Zebrafish1a	ELEEFVNGSGEHGFVVF	TLGSM	V	SQLPPEAKAREFFEAFRQIPQRVLWRYTGVPENAPKNVKLM	KWLPQNDLLGHPKVRAFVT	HGGSHCT	IYEG	ICNGVPMVMLPL	FGDQGD	NAQRLVSR		
Zebrafish1b	EVVEEFVNGSGEHGIVVF	SLGSL	V	SSMPKEKADIFFKAFSMIPQRVLWRYTGEIPNNVPENVKLM	KWLPQNDLLGHPKARAFIT	HGGTHCT	IYEG	ICHGVPMVMLPL	FGDQAD	NVHRVATR		
h2b15	EMEEFVQSSGENGIVVF	SLGSM	V	SNMSEESANMIASALAQIPQKVLWRFDGKKPNTLGSNTRY	KWLPQNDLLGHPKTKAFIT	HGGTNGT	IYEA	IYHGIPMVGIPL	FADQHD	NI	AHMKAK	
h2b17	EMEEFVQSSGENGIVVF	SLGSM	V	SNMSEESANMIASALAQIPQKVLWRFDGKKPNTLGSNTRY	KWLPQNDLLGHPKTKAFIT	HGGTNGT	IYEA	IYHGIPMVGIPL	FADQHD	NI	AHMKAK	
h2b10	EMEEFVQSSGENGVVVF	SLGSM	V	SNMTEERANVIATALAKIPQKVLWRFDGNKPDALGLNTRY	KWIPQNDLLGHPKTRAFIT	HGGANGT	IYEA	IYHGIPMVGIPL	FFDQPD	NI	AHMKAK	
h2b11	EMEEFVQSSGENGVVVF	SLGSM	V	SNMTAERANVIATALAKIPQKVLWRFDGNKPDALGLNTRY	KWIPQNDLLGHPKTRAFIT	HGGANGT	IYEA	IYHGIPMVGIPL	FFDQPD	NI	AHMKAK	
h2b7	EMEDFVQSSGENGVVVF	SLGSM	V	SNMTEERANVIASALAQIPQKVLWRFDGNKPDTLGLNTRY	KWIPQNDLLGHPKTRAFIT	HGGANGT	IYEA	IYHGIPMVGIPL	FADQPD	NI	AHMKAR	
h2b28	EMEEFVQSSGENGVVVF	SLGSM	V	SNMTAERANVIATALAKIPQKVLWRFDGNKPDALGLNTRY	KWIPQNDLLGLPKTRAFIT	HGGANGT	IYEA	IYHGIPMVGIPL	FWDQPD	NI	AHMKAK	
h2b4	EMEEFVQSSGENGVVVF	SLGSM	V	SNSTSEERANVIASALAKIPQKVLWRFDGNKPDTLGLNTRY	KWIPQNDLLGHPKTRAFIT	HGGANGT	IYEA	IYHGIPMVGIPL	FADQPD	NI	AHMKAK	
h2a3	EMENFVQSSGEDGIVVF	SLGSL	F	QNVTEEKANI	IASALAQIPQKVLWRYKGKKPSTLGANTRY	DWIPQNDLLGHPKTKAFIT	HGGMNGT	IYEA	IYHGVPMVGVP	FGDQLD	NI	AHMKAK
h2a	EMEEFIQSSGKNGVVVF	SLGSM	V	KNLTTEKANLIASALAQIPQKVLWRYKGKKPATLGNN	TQLFDWIPQNDLLGHPKTKAFIT	HGGTNGT	IYEA	IYHGVPMVGVP	FADQPD	NI	AHMKAK	
m2b37	DMEEYVQSSGDHGVVVF	SLGSM	V	SNITEEKVNAIAWALAQIPQKVLWKFDGKTPATLGHNTRY	KWLPQNDLLGHPKTKAFIT	HGGANSV	YEA	IYHGIPMIGIPL	FGEQHD	NI	AHMAVAK	
m2b5	DMEEFVQSSGDHGVVVF	SLGSM	V	SNMTEEKANAIAWALAQIPQKVLWKFDGKTPATLGHNTRY	KWLPQNDLLGHPKTKAFVT	HGGANGV	YEA	IYHGIPMIGIPL	FGEQHD	NI	AHMAVAK	
m2b38	DMEEFVQSSGDHGVVVF	SLGSM	V	SNMTEEKANAIAWALAQIPQKVLWKFDGKTPATLGHNTRY	KWLPQNDLLGHPKTKAFVT	HGGANGV	YEA	IYHGIPMIGIPL	FGEQHD	NI	AHMAVAK	
m2b36	EMEDFVQSSGEHGVVVF	SLGSM	V	SNMTEEKANAIAWALAQIPQKVLWRFDGKTPATLGPNTRY	KWLPQNDLLGHPKTKAFIT	HGGANGT	IYEA	IHHGIPMIGIPL	FGEQHD	NI	AHMAVAK	
m2b35	EMEDFVQSSGVHGVVVF	SLGSM	V	SNMTEERANAISWALAQIPQKVLWRFDGKTPASLGPNTRY	KWLPQNDLLGHPKTKAFVT	HGGANGT	IYEA	IHHGIPMIGIPL	FSEQHD	NI	AHMAVAK	
m2a	EMEEFVQTSGEHGIVVF	SLGSM	V	KNLTDEKANLIASALAQIPQKVLWRYKGKIPDTLGSNTRY	LFDWIPQNDLLGHPKTRAFIT	HGGTNGT	IYEA	IYHGIPMVGVP	FADQPD	NI	AHMKAK	
m2a3	EMEEFVQSSGEHGVVVF	SLGSM	V	KNLTTEKANLIASVLAQIPQKVLWRYSGKKPATLGSNTRY	LFDWIPQNDLLGHPKTKAFIT	HGGTNGT	IYEA	IYHGVPMVGVP	LGDQPH	NI	AHMEAK	
m2b1	EMEEFVQSSGEHGVVVF	SLGSM	V	KNIKEEKANVVASALAQIPQKVLWRFDGKKPDTLGSNTRY	KWIPQNDLLGHPKTKAFIA	HGGTNGT	IYEA	IYHGIPVIGIPL	FGDQPD	NI	NHIVAK	
m2b34	EIEDFVQSSGEHGVVVF	SLGSM	V	GSITEERANVIAAGLAQIPQKVLWRFEGKKPETLGSNTRY	KWIPQNDLLGHSKTRAFIT	HGGTNGT	IYEA	IYHGIPVVGIPL	FGDQYD	NI	VHLKAK	
r2a	EMEEFVQTSGEHGVVVF	SLGSM	V	KNLTTEKANLIASALAQIPQKVLWRYKGKIPATLGSNTRY	LFDWIPQNDLLGHPKTRAFIT	HGGTNGT	IYEA	IYHGIPMVGVP	FADQPD	NI	AHMKAK	
r2a3	ELEEFVQSSGEHGVVVF	SLGSM	I	KNLTTEKANLIASALAQIPQKVLWRYSGKKPATLGPNTRY	LFDWIPQNDLLGHPKTRAFIT	HGGTNGT	IYEA	IYHGVPMVGIP	FGDQPY	NI	AHMEAK	
r2b34	EIEDFVQSSGEHGVVVF	SLGSM	V	GNLTEERANVIAAGLAQIPQKVLWRFEGKKPETLGSNTRY	KWIPQNDLLGHPKTRAFIT	HGGTNGT	IYEA	IYHGIPVVGIPL	FGDQYD	NI	VHLKTK	
r2b39	EIEDFVQSSGEHGVVVF	SLGSM	V	GSLTEERANVIAAGLAQIPQKVLWRFEGKKPETLGSNTRY	KWIPQNDLLGHPKTRAFIT	HGGTNGT	IYEA	IYHGIPVVGIPL	FGDQKD	NI	VHLKTK	
r2b1	EMEEFVQSSGEHGVVVF	SLGSM	V	KNLTTEKANVVASALAQIPQKVWRFDGKKPDTLGSNTRY	KWIPQNDLLGHPKTKAFVA	HGGTNGT	IYEA	IYHGIPVIGIPL	FADQPD	NI	NHMAVAK	
r2b3	DMEDFVQSSGEHGVVVF	SLGSM	V	SSMTEEKANAIAWALAQIPQKVLWKFDGKTPATLGPNTRY	KWLPQNDLLGHPKTKAFVT	HGGANGV	YEA	IYHGIPMVGIP	FGEQHD	NI	AHMAVAK	
r2b6	DIEDFVQSSGEHGVVVF	SLGSM	V	SSMTEEKANAVAWALAQIPQKVLWKFDGKIPATLGPNTRY	KWLPQNDLLGHPKTKAFVT	HGGANGV	YEA	IYHGIPMIGIPL	FGEQHD	NI	AHMAVAK	
r2b2	DMEEFVQSSGEHGVVVF	SLGSM	V	SNMTEEKANAIAWALAQIPQKVLWKFDGKTPATLGPNTRY	KWLPQNDILGHPKTKAFVT	HGGANGT	YEA	IYHGIPMIGIPL	FGDQPD	NI	AHMAVAK	
r2b12	DIEDFVQSSGEHGVVVF	SLGSM	V	RNMTEEKANI	IAWALAQIPQKVLWRFDGKKPPTLGPNTRY	KWLPQNDLLGHPKTKAFVT	HGGANGT	YEA	IHHGIPMIGIPL	FGEQHD	NI	AHMAVAK
r2b8	EMEDFAQSSGEHGVVVF	SLGSM	I	RNITQERANTIASALAQIPQKVWRFDGKKPDTLGPNTRY	LFDWIPQNDLLGHPKTKAFVT	HGGANGT	YES	IHHGIPMVGIPL	FAEQRD	NI	VAHMAVAK	

Donor interacting residues

* * * * *