

**Supplemental Table:** Conservation across species of the novel *RYR2* variants. In Red mutations, in blue polymorphisms

	<b>E243K</b>	<b>F329L</b>	<b>R332W</b>
Homo sapiens	LLHGHMDECLTVPSG	ADVKSTAF <sup>F</sup> TFRSSKE	KSTAF <sup>T</sup> FRSSKEKLD
Canis familiaris	LLHGHMDECLTVPSG	ADVKSTAF <sup>F</sup> TFRSSKE	KSTAF <sup>T</sup> FRSSKEKLD
Equus caballus	LLHGHMDECLTVPSG	ADVKSTAF <sup>F</sup> TFRSSKE	KSTAF <sup>T</sup> FRSSKEKLD
Gallus gallus	LLHGHMDECLTVPSG	ADIKSTAF <sup>F</sup> CFRSSKE	KSTAF <sup>C</sup> FRSSKEKLD
Macaca mulatta	LLHGHMDECLTVPSG	ADVKSTAF <sup>F</sup> TFRSSKE	KSTAF <sup>T</sup> FRSSKEKLD
Monodelphis domestica	LLHGHMDECLTVPSG	ADVKSTAF <sup>F</sup> SFRSSKE	KSTAF <sup>S</sup> FRSSKEKLD
Mus musculus	LLHGHMDECLTVPSG	ADVKSTAF <sup>F</sup> AFRSSKE	KSTAF <sup>A</sup> FRSSKEKLD
Ornithorhynchus anatinu	LLHGHMDECLTVPSG	ADVKSTAF <sup>F</sup> CFRSSKE	KSTAF <sup>C</sup> FRSSKEKLD
Otolemur garnettii	LLHGHMDECLTVPSG	ADVKSTAF <sup>F</sup> TFRSSKE	KSTAF <sup>T</sup> FRSSKEKLD
Pan troglodytes	LLHGHMDECLTVPSG	ADVKSTAF <sup>F</sup> TFRSSKE	KSTAF <sup>T</sup> FRSSKEKLD
Rattus norvegicus	LLHGHMDECLTVPSG	ADVKSTAF <sup>F</sup> AFRSSKE	KSTAF <sup>A</sup> FRSSKEKLD
Sorex araneus	LLHGHMDECLTVPSG	ADVKSTAF <sup>F</sup> AFRSSKE	KSTAF <sup>A</sup> FRSSKEKLD

  

	<b>G357S</b>	<b>V377M</b>	<b>T415R</b>
Homo sapiens	GTSEIKY <sup>G</sup> D <sup>S</sup> V <sup>C</sup> Y <sup>I</sup> Q	LWLTYQ <sup>S</sup> V <sup>D</sup> V <sup>K</sup> S <sup>V</sup> R <sup>M</sup>	SQHEESR <sup>T</sup> ARVIRST
Canis familiaris	GTSEIKY <sup>G</sup> D <sup>S</sup> V <sup>C</sup> Y <sup>I</sup> Q	LWLTYQ <sup>S</sup> V <sup>D</sup> V <sup>K</sup> S <sup>V</sup> R <sup>M</sup>	SQHEESR <sup>T</sup> ARVIRST
Equus caballus	GTSEIKY <sup>G</sup> D <sup>S</sup> V <sup>C</sup> Y <sup>I</sup> Q	LWLTYQ <sup>S</sup> V <sup>D</sup> V <sup>K</sup> S <sup>V</sup> R <sup>M</sup>	SQHEESR <sup>T</sup> ARVIRST
Gallus gallus	GTPEIKY <sup>G</sup> D <sup>S</sup> I <sup>C</sup> F <sup>I</sup> Q	LWLSYQ <sup>S</sup> A <sup>D</sup> A <sup>K</sup> S <sup>V</sup> R <sup>M</sup>	SQHEESR <sup>T</sup> ARVIRST
Macaca mulatta	GTSEIKY <sup>G</sup> D <sup>S</sup> V <sup>C</sup> Y <sup>I</sup> Q	LWLTYQ <sup>S</sup> V <sup>D</sup> V <sup>K</sup> S <sup>V</sup> R <sup>M</sup>	SQHEESR <sup>T</sup> ARVIRST
Monodelphis domestica	GTSEIKY <sup>G</sup> D <sup>S</sup> V <sup>C</sup> Y <sup>I</sup> Q	LWLTYQ <sup>S</sup> V <sup>D</sup> V <sup>K</sup> S <sup>V</sup> R <sup>M</sup>	SQHEESR <sup>T</sup> ARVIRST
Mus musculus	GTSEIKY <sup>G</sup> D <sup>S</sup> I <sup>C</sup> Y <sup>I</sup> Q	LWLTYQ <sup>A</sup> V <sup>D</sup> V <sup>K</sup> S <sup>A</sup> R <sup>M</sup>	SQHEESR <sup>T</sup> ARVIRST
Ornithorhynchus anatinu	GTSEIKY <sup>G</sup> D <sup>S</sup> V <sup>C</sup> F <sup>I</sup> Q	LWLTYQ <sup>S</sup> A <sup>D</sup> A <sup>K</sup> S <sup>V</sup> R <sup>M</sup>	SQHEESR <sup>T</sup> ARVIRST
Otolemur garnettii	GTSEIKY <sup>G</sup> D <sup>S</sup> V <sup>C</sup> F <sup>I</sup> Q	LWLTYQ <sup>S</sup> V <sup>D</sup> V <sup>K</sup> S <sup>V</sup> R <sup>M</sup>	NK--ESR <sup>T</sup> GRVIRSN
Pan troglodytes	GTSEIKY <sup>G</sup> D <sup>S</sup> V <sup>C</sup> Y <sup>I</sup> Q	LWLTYQ <sup>S</sup> V <sup>D</sup> V <sup>K</sup> S <sup>V</sup> R <sup>M</sup>	SQHEESR <sup>T</sup> ARVIRST
Rattus norvegicus	GTSEIKY <sup>G</sup> D <sup>S</sup> I <sup>C</sup> Y <sup>I</sup> Q	LWLTYQ <sup>A</sup> V <sup>D</sup> V <sup>K</sup> S <sup>A</sup> R <sup>M</sup>	SQHEESR <sup>T</sup> ARVIRST
Sorex araneus	GTSEIKY <sup>G</sup> D <sup>S</sup> V <sup>C</sup> Y <sup>I</sup> Q	LWLTYQ <sup>S</sup> V <sup>D</sup> V <sup>K</sup> S <sup>V</sup> R <sup>M</sup>	SQHEESR <sup>T</sup> ARVIRST

	<b>R420Q</b>	<b>V507I</b>	<b>A549V</b>
Homo sapiens	SRTARVIRSTVFLFN	ECIDRLH <b>V</b> YSSAAHF <b>A</b>	RGNRKNCAQFSGLD
Canis familiaris	SRTARVIRSTVFLFN	ECIDRLH <b>V</b> YSSAAHF <b>A</b>	RGNRKNCAQFSGLD
Equus caballus	SRTARVIRSTVFLFN	ECIDRLH <b>V</b> YSSAAHF <b>A</b>	RGNRKNCAQFSGLD
Gallus gallus	SRTARVIRSTVFLFN	ECIDRLH <b>V</b> YSSAAHF <b>A</b>	RGNRKNCAQFSGLD
Macaca mulatta	SRTARVIRSTVFLFN	ECIDRLH <b>V</b> YSSAAHF <b>A</b>	RGNRKNCAQFSGLD
Monodelphis domestica	SRTARVIRSTVFLFN	ECIDRLH <b>V</b> YSSAAHF <b>A</b>	RGNRKNCAQFSGLD
Mus musculus	SRTARVIRSTVFLFN	ECIDRLH <b>V</b> YSSAAHF <b>A</b>	RGNRKNCAQFSGLD
Ornithorhynchus anatinu	SRTARVIRSTAFLEFN	ECIDRLH <b>V</b> YSSAAHF <b>A</b>	RGNRKNCAQFSGLD
Otolemur garnettii	SRTGRVIRSNVFLFN	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX
Pan troglodytes	SRTARVIRSTVFLFN	ECIDRLH <b>V</b> YSSAAHF <b>A</b>	RGNRKNCAQFSGLD
Rattus norvegicus	SRTARVIRSTVFLFN	ECIDRLH <b>V</b> YSSAAHF <b>A</b>	RGNRKNCAQFSGLD
Sorex araneus	SRTARVIRSTVFLFN	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX

	<b>R739H</b>	<b>R1013Q</b>	<b>T1107M</b>
Homo sapiens	LWSGCIAR <b>T</b> VSSPNQ	VWARDRI <b>R</b> QGWTYGI	RWYF <b>E</b> F <b>E</b> T <b>V</b> TAGDMR
Canis familiaris	LWSGCIAR <b>T</b> VSSPNQ	VWARDRI <b>R</b> QGWTYGI	RWYF <b>E</b> F <b>E</b> T <b>V</b> TAGDMR
Equus caballus	LWSGCIAR <b>T</b> VSSPNQ	VWARDRV <b>R</b> QGWTYGI	RWYF <b>E</b> F <b>E</b> T <b>V</b> TAGDMR
Gallus gallus	LWSGCVAR <b>T</b> VNSPNQ	VWARDRI <b>R</b> QGWTYGI	KWYF <b>E</b> F <b>E</b> A <b>V</b> TAGDMR
Macaca mulatta	LWSGCIAR <b>T</b> VSSPNQ	VWARDRI <b>R</b> QGWTYGI	RWYF <b>E</b> F <b>E</b> T <b>V</b> TAGDMR
Monodelphis domestica	LWSGCIAR <b>T</b> VSSPNQ	VWARDRI <b>R</b> QGWTYGI	RWYF <b>E</b> F <b>E</b> A <b>V</b> TAGDMR
Mus musculus	LWSGCIAR <b>T</b> VSSPNQ	VWARDRI <b>R</b> QGWTYGI	RWYF <b>E</b> F <b>E</b> A <b>V</b> TAGDMR
Ornithorhynchus anatinu	LWSGCIAR <b>T</b> VSSPNQ	VWARDRI <b>R</b> QGWTYGI	RWYF <b>E</b> F <b>E</b> A <b>V</b> TAGDMR
Otolemur garnettii	LWSGCIAR <b>T</b> VSSPNQ	V-SRDR <b>I</b> RQGWTYGI	XXXXXXXXXXXXXXXXXX
Pan troglodytes	LWSGCIAR <b>T</b> VSSPNQ	VWARDRI <b>R</b> QGWTYGI	RWYF <b>E</b> F <b>E</b> T <b>V</b> TAGDMR
Rattus norvegicus	LWSGCIAR <b>T</b> VSSPNQ	VWARDRI <b>R</b> QGWTYGI	RWYF <b>E</b> F <b>E</b> A <b>V</b> TAGDMR
Sorex araneus	LWSXXXXXXXXXXQ	VWARDRI <b>R</b> QGWTYGI	RWYF <b>E</b> F <b>E</b> A <b>V</b> TAGDMR

	<b>A1136V</b>	<b>E1837K</b>	<b>E2045G</b>
Homo sapiens	GSDERAF <b>A</b> FDGFKAQ	IMGIFHN <b>E</b> DLKHILQ	YLKKKQA <b>E</b> KPVESDS
Canis familiaris	GSDEHAF <b>A</b> FDGFKAQ	IMGIFHN <b>E</b> DLKHILQ	YLKKKQA <b>E</b> KPIESDS
Equus caballus	GSDECAF <b>A</b> FDGFKAQ	IMGIFHN <b>E</b> DLKHILQ	YLKKKQA <b>E</b> KPVESDS
Gallus gallus	GSDEEAF <b>V</b> FDGFKAQ	IMGIFHN <b>G</b> DLKHILQ	YLKKKQA <b>E</b> KPVDDDA
Macaca mulatta	GSDERAF <b>A</b> FDGFKAQ	IMGIFHN <b>E</b> DLKHILQ	YLKKKQA <b>E</b> KPVESDS
Monodelphis domestica	GSDEQAF <b>A</b> FDGFKAQ	IMGIFNN <b>E</b> DLKHILQ	YLKKKQT <b>E</b> KPIENDS
Mus musculus	GSDDRAF <b>A</b> FDGFKAQ	IMGIFHN <b>E</b> DLKHILQ	YLKKKQA <b>E</b> KPVASDS
Ornithorhynchus anatinu	GSDEHAF <b>A</b> FDGFKAQ	IMGVFHD <b>G</b> DLKHVLR	YLKKKQA <b>Q</b> RPVDGYS
Otolemur garnettii	XXXXXXXXXXXXXXXXXAQ	IMGVFHN <b>E</b> DLKHILQ	YLKKKQA <b>E</b> KPIESDL
Pan troglodytes	GSDERAF <b>A</b> FDGFKAQ	IMGIFHN <b>E</b> DLKHILQ	YLKKKQA <b>E</b> KPVESDS
Rattus norvegicus	GSDERAF <b>A</b> FDGFKAQ	IMGIFHN <b>E</b> DLKHILQ	YLKKKQA <b>E</b> KPVASDS
Sorex araneus	GSDDRAF <b>A</b> FDGFKAQ	IMGVFHN <b>E</b> DLKHILQ	XXXXXXXXXXXXXXXXXXX

	<b>Y2156C</b>	<b>H2168Q</b>	<b>E2183V</b>
Homo sapiens	IMNNKVF <b>Y</b> QHPNLMR	LMRALGM <b>H</b> ETVMEVM	VNVLGGG <b>E</b> SKEITFP
Canis familiaris	IMNNKVF <b>Y</b> QHPNLMR	LMRALGM <b>H</b> ETVMEVM	VNVLGGG <b>E</b> SKEITFP
Equus caballus	IMNNKVF <b>Y</b> QHPNLMR	LMRALGM <b>H</b> ETVMEVM	VNVLGGG <b>E</b> SKEITFP
Gallus gallus	IMNNKVF <b>Y</b> QHPNLMR	LMRALGM <b>H</b> ETVMEVM	VNVLGGG <b>E</b> SKEITFP
Macaca mulatta	IMNNKVF <b>Y</b> QHPNLMR	LMRALGM <b>H</b> ETVMEVM	VNVLGGG <b>E</b> SKEITFP
Monodelphis domestica	IMNNKVF <b>Y</b> QHPNLMR	LMRALGM <b>H</b> ETVMEVM	VNVLGGG <b>E</b> SKEITFP
Mus musculus	IMNNKVF <b>Y</b> QHPNLMR	LMRALGM <b>H</b> ETVMEVM	VNVLGGG <b>E</b> SKEITFP
Ornithorhynchus anatinu	LPYAEH <b>S</b> TQRPNLMR	LMRALGM <b>H</b> ETVMEVM	VNVLGGG <b>E</b> MKEITFP
Otolemur garnettii	IMNNKVF <b>Y</b> QHPNLMR	LMRALGM <b>H</b> ETVMEVM	VNVLGGG <b>E</b> SKXXXXX
Pan troglodytes	IMNNKVF <b>Y</b> QHPNLMR	LMRALGM <b>H</b> ETVMEVM	VNVLGGG <b>E</b> SKEITFP
Rattus norvegicus	IMNNKVF <b>Y</b> QHPNLMR	LMRALGM <b>H</b> ETVMEVM	VNVLGGG <b>E</b> SKEITFP
Sorex araneus	IMNNKVF <b>Y</b> QHPNLMR	LMRALGM <b>H</b> ETVMEVM	VNVLGGG <b>E</b> SKEITFP

	<b>D2216V</b>	<b>E2296Q</b>	<b>R2420W</b>
Homo sapiens	QNQKAMF <b>D</b> HLSYLLE	GWNPVEG <b>E</b> RYLDFLR	KGEAIRI <b>R</b> SILRSLI
Canis familiaris	QNQKAMF <b>D</b> HLSYLLE	GWNPVEG <b>E</b> RYLDFLR	KGEAIRI <b>R</b> SILRSLI
Equus caballus	QNQKAMF <b>D</b> HLSYLLE	GWNPVEG <b>E</b> RYLDFLR	KGEAIRI <b>R</b> SILRSLI
Gallus gallus	QNQKAMF <b>D</b> HLSYLLE	GWNPVEG <b>E</b> RYLDFLR	KGEAIRI <b>R</b> SILRSLI
Macaca mulatta	QNQKAMF <b>D</b> HLSYLLE	GWNPVEG <b>E</b> RYLDFLR	KGEAIRI <b>R</b> SILRSLI
Monodelphis domestica	QNQKAMF <b>D</b> HLSYLLE	GWNPVEG <b>E</b> RYLDFLR	KGEAIRI <b>R</b> SILRSLI
Mus musculus	QNQKAMF <b>D</b> HLSYLLE	GWNPVEG <b>E</b> RYLDFLR	KGEAIRI <b>R</b> SILRSLI
Ornithorhynchus anatinu	QNQKAMF <b>D</b> HLSYLLE	GWNPVEG <b>E</b> RYLDFLR	KGEAIRI <b>R</b> SILRSLI
Otolemur garnettii	XXXXXXXXXXXXXXXXXX	GWNPVEG <b>E</b> RYLDFLR	XGEATRI <b>R</b> SILRSLI
Pan troglodytes	QNQKAMF <b>D</b> HLSYLLE	GWNPVEG <b>E</b> RYLDFLR	KGEAIRI <b>R</b> SILRSLI
Rattus norvegicus	QNQKAMF <b>D</b> HLSYLLE	GWNPVEG <b>E</b> RYLDFLR	KGEAIRI <b>R</b> SILRSLI
Sorex araneus	QNQKAMF <b>D</b> HLSYLLE	GWNPVEG <b>E</b> RYLDFLR	KGEAIRI <b>R</b> SILRSLI

	<b>M3972I</b>	<b>D3973H</b>	<b>L3974Q</b>
Homo sapiens	IELLKEL <b>M</b> DLQKDMV	ELLKEL <b>M</b> DLQKDMV	LLKEL <b>M</b> DLQKDMVM
Canis familiaris	IELLKEL <b>M</b> DLQKDMV	ELLKEL <b>M</b> DLQKDMV	LLKEL <b>M</b> DLQKDMVM
Equus caballus	IELLKEL <b>M</b> DLQKDMV	ELLKEL <b>M</b> DLQKDMV	LLKEL <b>M</b> DLQKDMVM
Gallus gallus	IELLKEL <b>M</b> DLQKDMV	ELLKEL <b>M</b> DLQKDMV	LLKEL <b>M</b> DLQKDMVM
Macaca mulatta	IELLKEL <b>M</b> DLQKDMV	ELLKEL <b>M</b> DLQKDMV	LLKEL <b>M</b> DLQKDMVM
Monodelphis domestica	IELLKEL <b>M</b> DLQKDMV	ELLKEL <b>M</b> DLQKDMV	LLKEL <b>M</b> DLQKDMVM
Mus musculus	IELLKEL <b>M</b> DLQKDMV	ELLKEL <b>M</b> DLQKDMV	LLKEL <b>M</b> DLQKDMVM
Ornithorhynchus anatinu	IELLKEL <b>M</b> DLQKDMV	ELLKEL <b>M</b> DLQKDMV	LLKEL <b>M</b> DLQKDMVM
Otolemur garnettii	IELLKEL <b>M</b> DLQKDMV	ELLKEL <b>M</b> DLQKDMV	LLKEL <b>M</b> DLQKDMVM
Pan troglodytes	IELLKEL <b>M</b> DLQKDMV	ELLKEL <b>M</b> DLQKDMV	LLKEL <b>M</b> DLQKDMVM
Rattus norvegicus	IELLKEL <b>M</b> DLQKDMV	ELLKEL <b>M</b> DLQKDMV	LLKEL <b>M</b> DLQKDMVM
Sorex araneus	IELLKEL <b>M</b> DLQKDMV	ELLKEL <b>M</b> DLQKDMV	LLKEL <b>M</b> DLQKDMVM

	<b>K3997E</b>	<b>S4124G</b>	<b>Y4149S</b>
Homo sapiens	VVNGTIG <b>K</b> QMVDMLV	TFLELAE <b>S</b> VLNYFQP	AKRIERV <b>Y</b> FEISESS
Canis familiaris	VVNGTIG <b>K</b> QMVDMLV	TFLELAE <b>S</b> VLNYFQP	AKRIERV <b>Y</b> FEISESS
Equus caballus	VVNGTIG <b>K</b> QMVDMLV	TFLELAE <b>S</b> VLNYFQP	AKRIERV <b>Y</b> FEISESS
Gallus gallus	VVNGTIG <b>K</b> QMVDMLV	TFLELSE <b>S</b> VLNYFQP	AKRIERV <b>Y</b> FEISESS
Macaca mulatta	VVNGTIG <b>K</b> QMVDMLV	TFLELAE <b>S</b> VLNYFQP	AKRIERV <b>Y</b> FEISESS
Monodelphis domestica	VVNGTIG <b>K</b> QMVDMLV	TFLELAE <b>S</b> VLNYFQP	AKRIERV <b>Y</b> FEISESS
Mus musculus	VVNGTIG <b>K</b> QMVDMLV	TFLELAE <b>S</b> VLNYFQP	AKRIERV <b>Y</b> FEISESS
Ornithorhynchus anatinu	VVNGTIG <b>K</b> QMVDMLV	TFLELAE <b>S</b> VLNYFQP	AKRIERV <b>Y</b> FEISESS
Otolemur garnettii	VVNGTIG <b>K</b> QMVDMLV	TFLELAE <b>S</b> VLNYFQP	AKRIERV <b>Y</b> FEISESS
Pan troglodytes	VVNGTIG <b>K</b> QMVDMLV	TFLELAE <b>S</b> VLNYFQP	AKRIERV <b>Y</b> FEISESS
Rattus norvegicus	VVNGTIG <b>K</b> QMVDMLV	TFLELAE <b>S</b> VLNYFQP	AKRIERV <b>Y</b> FEISESS
Sorex araneus	VVNGTIG <b>K</b> QMVDMLV	TFLELAE <b>S</b> VLNYFQP	AKRIERV <b>Y</b> FEISESS

	<b>R4157Q</b>	<b>Q4159P</b>	<b>N4178S</b>
Homo sapiens	FEISESS <b>R</b> TQWEKPQ	ISESSRT <b>Q</b> WEKPQVK	QFIFD <b>V</b> NEGGEKEK
Canis familiaris	FEISESS <b>R</b> TQWEKPQ	ISESSRT <b>Q</b> WEKPQVK	QFIFD <b>V</b> NEGGEKEK
Equus caballus	FEISESS <b>R</b> TQWEKPQ	ISESSRT <b>Q</b> WEKPQVK	QFIFD <b>V</b> NEGGEKEK
Gallus gallus	FEISESS <b>R</b> TQWEKPQ	ISESSRT <b>Q</b> WEKPQVK	QFIFD <b>V</b> NEGGEKEK
Macaca mulatta	FEISESS <b>R</b> TQWEKPQ	ISESSRT <b>Q</b> WEKPQVK	QFIFD <b>V</b> NEGGEKEK
Monodelphis domestica	FEISESS <b>R</b> TQWEKPQ	ISESSRT <b>Q</b> WEKPQVK	QFIFD <b>V</b> NEGGEKEK
Mus musculus	FEISESS <b>R</b> TQWEKPQ	ISESSRT <b>Q</b> WEKPQVK	QFIFD <b>V</b> NEGGEKEK
Ornithorhynchus anatinu	FEISESS <b>R</b> TQWEKPQ	ISESSRT <b>Q</b> WEKPQVK	QFIFD <b>V</b> NEGGEKEK
Otolemur garnettii	FEISESS <b>R</b> TQWEKPQ	ISESSRT <b>Q</b> WEKPQVK	QFIFD <b>V</b> NEGGEKEK
Pan troglodytes	FEISESS <b>R</b> TQWEKPQ	ISESSRT <b>Q</b> WEKPQVK	QFIFD <b>V</b> NEGGEKEK
Rattus norvegicus	FEISESS <b>R</b> TQWEKPQ	ISESSRT <b>Q</b> WEKPQVK	QFIFD <b>V</b> NEGGEKEK
Sorex araneus	FEISESS <b>R</b> TQWEKPQ	ISESSRT <b>Q</b> WEKPQVK	QFIFD <b>V</b> NEGGEKEK

	<b>E4187Q</b>	<b>G4315E</b>	<b>K4650E</b>
Homo sapiens	GGEKEKM <b>E</b> LFVNFCE	I ICSLLLL <b>G</b> GSLVEGA	NYWDKFV <b>K</b> RKVMDKY
Canis familiaris	GGEKEKM <b>E</b> LFVNFCE	I ICSLLLL <b>G</b> GSLVEGA	NYWDKFV <b>K</b> RKVMDKY
Equus caballus	GGEKEKM <b>E</b> LFVNFCE	I ICSLLLL <b>G</b> GSLVEGA	NYWDKFV <b>K</b> RKVMDKY
Gallus gallus	GGEKEKM <b>E</b> LFVNFCE	I ICSLLLL <b>G</b> GSLVEGA	NYWDKFV <b>K</b> RKVMDKY
Macaca mulatta	GGEKEKM <b>E</b> LFVNFCE	I ICSLLLL <b>G</b> GSLVEGA	NYWDKFV <b>K</b> RKVMDKY
Monodelphis domestica	GGEKEKM <b>E</b> LFVNFCE	IMCSLLLL <b>G</b> GSLVEGA	NYWDKFV <b>K</b> RKVMDKY
Mus musculus	GGEKEKM <b>E</b> LFVNFCE	IVSSLLLL <b>G</b> GSLVEGA	NYWDKFV <b>K</b> RKVMDKY
Ornithorhynchus anatinu	GGEKEKM <b>E</b> LFVSFCE	XXXSWLS <b>E</b> KCLGHGA	NYWDKFV <b>K</b> RKVMDKY
Otolemur garnettii	GGEKEKM <b>E</b> LFVNFCE	IVCSLLLL <b>G</b> ASLVEGA	NYWDKFV <b>K</b> RKVMDKY
Pan troglodytes	GGEKEKM <b>E</b> LFVNFCE	I ICSLLLL <b>G</b> GSLVEGA	NYWDKFV <b>K</b> RKVMDKY
Rattus norvegicus	GGEKEKM <b>E</b> LFVNFCE	IVSSLLLL <b>G</b> GSLVEGA	NYWDKFV <b>K</b> RKVMDKY
Sorex araneus	GGEKEKM <b>E</b> LFVNFCE	I ICSLLLL <b>G</b> GSLVEGA	NYWDKFV <b>K</b> RKVMDKY

	<b>N4736Del</b>	<b>R4790Q</b>	<b>K4805R</b>
Homo sapiens	SVLGHY <b>N</b> NFFFAAH	VVAFNFF <b>R</b> KFYNKSE	DGDT <b>P</b> DM <b>K</b> CDDMLTC
Canis familiaris	SILGHY <b>N</b> NFFFAAH	VVAFNFF <b>R</b> KFYNKSE	DGDT <b>P</b> DM <b>K</b> CDDMLTC
Equus caballus	SVLGHY <b>N</b> NFFFAAH	VVAFNFF <b>R</b> KFYNKSE	DGDT <b>P</b> DM <b>K</b> CDDMLTC
Gallus gallus	SVLGHY <b>N</b> NFFFAAH	VVAFNFF <b>R</b> KFYNKSE	DGDMPDM <b>K</b> CDDMLTC
Macaca mulatta	SVLGHY <b>N</b> NFFFAAH	VVAFNFF <b>R</b> KFYNKSE	DGDMPDM <b>K</b> CDDMLTC
Monodelphis domestica	SVLGHY <b>N</b> NFFFAAH	VVAFNFF <b>R</b> KFYNKSE	DGDMPDM <b>K</b> CDDMLTC
Mus musculus	SVLGHY <b>N</b> NFFFAAH	VVAFNFF <b>R</b> KFYNKSE	DGDMPDM <b>K</b> CDDMLTC
Ornithorhynchus anatinu	SVLGHY <b>N</b> NFFFAAH	VVAFNFF <b>R</b> KFYNKSE	DGDMPDM <b>K</b> CDDMLTC
Otolemur garnettii	SVLGHY <b>N</b> NFFFAAH	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX
Pan troglodytes	SVLGHY <b>N</b> NFFFAAH	VVAFNFF <b>R</b> KFYNKSE	DGDT <b>P</b> DM <b>K</b> CDDMLTC
Rattus norvegicus	SVLGHY <b>N</b> NFFFAAH	VVAFNFF <b>R</b> KFYNKSE	DGDT <b>P</b> DM <b>K</b> CDDMLTC
Sorex araneus	SVLGHY <b>N</b> NFFFAAH	VVAFNFF <b>R</b> KFYNKSE	DGDT <b>P</b> DM <b>K</b> CDDMLTC

**R4822H**

Homo sapiens	FHMYVGV <b>R</b> AGGGIGD
Canis familiaris	FHMYVGV <b>R</b> AGGGIGD
Equus caballus	FHMYVGV <b>R</b> AGGGIGD
Gallus gallus	FHMYVGV <b>R</b> AGGGIGD
Macaca mulatta	FHMYVGV <b>R</b> AGGGIGD
Monodelphis domestica	FHMYVGV <b>R</b> AGGGIGD
Mus musculus	FHMYVGV <b>R</b> AGGGIGD
Ornithorhynchus anatinu	FHMYVGV <b>R</b> AGGGIGD
Otolemur garnettii	FHMYVGV <b>R</b> AGGGIGD
Pan troglodytes	FHMYVGV <b>R</b> AGGGIGD
Rattus norvegicus	FHMYVGV <b>R</b> AGGGIGD
Sorex araneus	FHMYVGV <b>R</b> AGGGIGD