

Supplemental Figure 1. **Lysine residues are conserved in the cytoplasmic tail of mammalian DO β molecules.**

Amino acid sequences of the cytoplasmic tails of the homologues of HLA-DO α and β from 24 mammals are shown. The ubiquitination site at the residue corresponding to human DO β lysine 225 is conserved across most mammalian species. The C-terminal parts of the putative transmembrane domains are highlighted in grey, lysine residues are shown in red, and Yxx Φ and dileucine motifs are in bold print. Sequences were obtained from the Ensemble database, Release 62. All species for which both α and β chains were available are shown. In orangutan, mouse lemur, horse, dog and elephant, the DO β STOP codon was not found in the database (...).

Species	Species name	DO α	DO β
Human	<i>Homo sapiens</i>	...LVGTVLIIMGTIVSSVPR	...LVGIVIQLR AQ K GYVRT QMSGNEVSRAV LL PQSC
Chimpanzee	<i>Pan troglodytes</i>	...LVGTVLIIVGTIVSSVPR	...LVGIVIQLR AQ K GYVRT QMSGNEVSRAV LL PQSC
Orang Utan	<i>Pongo pygmaeus</i>	...LVGTVLIIMGTIVSSARR	...LVGIVIQLR AQ K GYVRT QMSGNEVSRAV LL PQ [...]
Macaque	<i>Macaca mulatta</i>	...LVGTILIIIMGTIVSSAPR	...LMGIIIQLR AQ K GYVRT QMSGDEVSRAV LL PQPC
Marmoset	<i>Callithrix jacchus</i>	...LVGTILIIIMGICVSSAPR	...LVGIVIQLR AQ KGHVGTMSGDEVSRAV LL PQSY
Galago	<i>Otolemur garnettii</i>	...LVGTILII K GT CQ SSAPR	...LVGIVIH LR AQ KGYMEIQ KSGDEVSRAV LF PQPH
Mouse Lemur	<i>Microcebus murinus</i>	...LVGTALVITGTRLSSAPGQ	...LLLVGVL LR RAQR [...]
Tarsier	<i>Tarsius syrichta</i>	...LVGTILIIIRGT C ESHAPR	...LVGIVIH LR AR KGYMDT Q Q SGDEVPRTVMPWQPC
Large Flying Fox	<i>Pteropus vampyrus</i>	...LVGTVLIITSTCLHSAPR	...LVGI AV HLRAQ KGYAET QLSGD KV SR SV LPPLTY
Pika	<i>Ochotona princeps</i>	...LQGTVLII I AT RM SRAPRQ	...LVGII TY LR AW KGCMETQ RS AAEVSRAG F PSQPY
Mouse	<i>Mus musculus</i>	...LLGTVLMITGTRRPSIRR	...LVGV VI HL KAQ KASVETQ-PGNEAS RES LHSQP.
Rat	<i>Rattus norvegicus</i>	...LLGTLLMVTATRMPSTRR	...LVG AV IH LR KAQKASVETQ-PGNEAS R ALLPPHPY
Kangaroo Rat	<i>Dipodomys ordii</i>	...LMGTILII I LAT TM DAHR	...LAG LI IHL RAW KGS AE AQ-AGHEVSR ALL PSQPY
Ground Squirrel	<i>Spermophilus tridecemlineatus</i>	...LMGTILII I TG TC MSSCPR	...LVGII I HL R AR KGS VETQ-SGD KISRA IL Q PN S
Horse	<i>Equus caballus</i>	...LVGTILLII I STCLSGAPR	...LVGIF I HL R AR KG [...]
Pig	<i>Sus scrofa</i>	...LVGVTLII T GRRR SS SPR	...LVGII I H V RRAR KGR VETQLSGDEPH
Alpaca	<i>Vicugna pacos</i>	...LVGIVLII T GSRLSRAPR	...LVGIT V HVRAR KGYVET QLSGD KV L GA VCPEQPH
Bottlenose Dolphin	<i>Tursiops truncatus</i>	...LVGVILII T GTCLSS TP R	...LVGIV I H T RRAR KM -----VTVPRAV LR PQPH
Dog	<i>Canis lupus</i>	...LVGTIFII R GTCLSSG PR YRG PQ	...LVGT VI CLRAQ KGYVET Q F SGDEVM [...]
Cat	<i>Felis catus</i>	...LVGFLVG T ILII R GTCLSSAPR	...LVGT VI CLRAQ KGYMET QLSGDEVSRAV-PSP PH
Nine-Banded Armadillo	<i>Dasypus novemcinctus</i>	...LAGLVGT IL IFAG TR LSSAPR	...LVGII I CL R AR KGYMET QLSN D GVSR ALL PPQLYQ
African Elephant	<i>Loxodonta africana</i>	...LVGTIFII S GTCLSS TP RCRG PR	...LVGIV I H F RG Q KG [...]
Hyrax	<i>Procavia capensis</i>	...LVGTIFII S GAC L SS DP K	...LVGIF I Y F RAQ KGYVKT QL S VD KV SR SV LP PQ PYE
Lesser Hedgehog Tenrec	<i>Echinops telfairi</i>	...LLGTVLI I H S TCC SS VLR	...LVG I C IR LR KA QR GH VET P QL H DEGS RS V-PI Q SC