**Supplementary Figure 2**. Alignments of vertebrate SEPP1.











**Supplementary Figure 2**. **Alignments of vertebrate SEPP1.**

Multiple sequence alignment performed with Jalview (Andrew et al. 2009), using MUSCLE (Robert 2004) with standard settings. Sequences not listed in Supplementary Table 2 were obtained from the selenoprotein database (selenodb.com, (Romagné et al. 2014)). MUSCLE does not recognize the amino acid symbol for selenocystiene (u), replacing u with x during alignment analysis. All x’s within the sequences represent selenocysteine residues. Animals included in the manuscript are provided in the top list of sequences, followed by the invertebrate *Lottia gigantean* sequence (Liang et al. 2012) used as an outgroup for building a phylogenetic tree, additional mammal sequences available on selenoDB (version 2.0) or the naked mole rat (*Heterocephalus glaber,* XP\_004848622.1) genome database (http://www.naked-mole-rat.org/).

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