

**Table S4. Species with identical DNA sequences for the target region**

| Species 1                                                           | Species 2                                                     |
|---------------------------------------------------------------------|---------------------------------------------------------------|
| <i>Canis lupus laniger</i> (Tibetan wolf)                           | <i>Canis lupus chanco</i> (Mongolian wolf)                    |
| <i>Pusa sibirica</i> (Baikal seal)                                  | <i>Halichoerus grypus</i> (gray seal)                         |
| <i>Martes melampus</i> (Japanese marten)                            | <i>Martes zibellina</i> (sable)                               |
| <i>Ursus thibetanus formosanus</i> (Formosan black bear)            | <i>Ursus thibetanus thibetanus</i> (Asiatic black bear)       |
| <i>Ursus thibetanus formosanus</i> (Formosan black bear)            | <i>Ursus thibetanus mupinensis</i> (Asiatic black bear)       |
| <i>Ursus thibetanus thibetanus</i> (Asiatic black bear)             | <i>Ursus thibetanus mupinensis</i> (Asiatic black bear)       |
| <i>Panthera tigris</i> (tiger)                                      | <i>Panthera tigris amoyensis</i> (Amoy tiger)                 |
| <i>Equus zebra</i> (mountain zebra)                                 | <i>Equus zebra hartmannae</i> (Hartmann's mountain zebra)     |
| <i>Sus scrofa</i> (pig)                                             | <i>Sus scrofa domesticus</i> (domestic pig)                   |
| <i>Stenella attenuata</i> (bridled dolphin)                         | <i>Orcinus orca</i> (Killer whale)                            |
| <i>Tursiops aduncus</i> (Indo-pacific bottlenose dolphin)           | <i>Delphinus capensis</i> (Longbeaked common dolphin)         |
| <i>Tursiops aduncus</i> (Indo-pacific bottlenose dolphin)           | <i>Tursiops truncatus</i> (bottlenosed dolphin)               |
| <i>Tursiops aduncus</i> (Indo-pacific bottlenose dolphin)           | <i>Sousa chinensis</i> (Chinese white dolphin)                |
| <i>Delphinus capensis</i> (Longbeaked common dolphin)               | <i>Tursiops truncatus</i> (bottlenosed dolphin)               |
| <i>Delphinus capensis</i> (Longbeaked common dolphin)               | <i>Sousa chinensis</i> (Chinese white dolphin)                |
| <i>Tursiops truncatus</i> (bottlenosed dolphin)                     | <i>Sousa chinensis</i> (Chinese white dolphin)                |
| <i>Muntiacus reevesi</i> (Chinese muntjac)                          | <i>Muntiacus reevesi micrurus</i> (Formosan muntjac)          |
| <i>Cervus elaphus xanthopygus</i> (Manchurian Wapiti)               | <i>Cervus elaphus songaricus</i> (Tian Shan wapiti)           |
| <i>Cervus nippon kopschi</i> (South China sika deer)                | <i>Cervus nippon sichuanicus</i> (Sichuan sika deer)          |
| <i>Rusa unicolor swinhoei</i> (Formosan sambar)                     | <i>Cervus taiouanus</i> (Formosan sika deer)                  |
| <i>Rusa unicolor swinhoei</i> (Formosan sambar)                     | <i>Przewalskium albirostris</i> (white-lipped deer)           |
| <i>Rusa unicolor swinhoei</i> (Formosan sambar)                     | <i>Rucervus eldi</i>                                          |
| <i>Cervus taiouanus</i> (Formosan sika deer)                        | <i>Przewalskium albirostris</i> (white-lipped deer)           |
| <i>Cervus taiouanus</i> (Formosan sika deer)                        | <i>Rucervus eldi</i>                                          |
| <i>Przewalskium albirostris</i> (white-lipped deer)                 | <i>Rucervus eldi</i>                                          |
| <i>Hydropotes inermis</i> (Chinese water deer)                      | <i>Hydropotes inermis argyropus</i> (Korean water deer)       |
| <i>Camelus bactrianus</i> (Bactrian camel)                          | <i>Camelus ferus</i> (Wild Bactrian camel)                    |
| <i>Camelus bactrianus</i> (Bactrian camel)                          | <i>Camelus dromedarius</i> (Arabian camel)                    |
| <i>Camelus ferus</i> (Wild Bactrian camel)                          | <i>Camelus dromedarius</i> (Arabian camel)                    |
| <i>Mammuthus primigenius</i> (woolly mammoth)                       | <i>Mammuthus columbi</i> (Columbian mammoth)                  |
| <i>Eulemur fulvus fulvus</i> (brown lemur)                          | <i>Eulemur fulvus mayottensis</i> (brown lemur)               |
| <i>Homo sapiens neanderthalensis</i> (Neandertal)                   | <i>Homo sapiens</i> (human)                                   |
| <i>Chlorocebus pygerythrus</i> ( <i>Cercopithecus pygerythrus</i> ) | <i>Chlorocebus tantalus</i> ( <i>Cercopithecus tantalus</i> ) |
| <i>Rhinopithecus bieti</i> (black snub-nosed monkey)                | <i>Rhinopithecus bieti</i> 1 RL-2012 (black snub-nosed)       |
| <i>Saimiri sciureus</i> (common squirrel monkey)                    | <i>Saimiri boliviensis boliviensis</i> (Bolivian squirrel)    |