**Figure 1–source data 1. A list of the identified N-glycosylation sites (NGS) in the extracellular loops of innexins in non-chordate species.**

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| --- | --- | --- | --- | --- | --- | --- |
| **Taxonomic rank** | **Species** | **Innexin**  **ID** | **Database** | **Accession**  **ID** | **Predicted NGS** | |
| **EL1** | **EL2** |
|  |  |  |  |  |  |  |
| **Ctenophores** | *Pleurobrachia bachei* | Ct\_Pba\_01 | Ctenophora Genomes | 2663906 |  | N251 |
|  | Ct\_Pba\_02 | Ctenophora Genomes | 2647758 |  |  |
|  | Ct\_Pba\_03 | Ctenophora Genomes | 2665840 |  |  |
|  | Ct\_Pba\_04 | Ctenophora Genomes | 2663329 | N112 |  |
|  | Ct\_Pba\_05 | Ctenophora Genomes | 2667905 |  | N211 |
| *Beroe abyssicola* | Ct\_Bab\_01 | Ctenophora Genomes | 12132532 | N131 | N340 |
|  | Ct\_Bab\_02 | Ctenophora Genomes | 12139961 |  | N257 |
|  | Ct\_Bab\_03 | Ctenophora Genomes | 12139962 |  | N259 |
|  | Ct\_Bab\_04 | Ctenophora Genomes | 12125868 |  | N258 |
| *Bolinopsis infundibulum* | Ct\_Bin\_01 | Ctenophora Genomes | 12228714 |  | N262 |
|  | Ct\_Bin\_02 | Ctenophora Genomes | 12216757 |  |  |
| *Dryodora glandiformis* | Ct\_Dgl\_01 | Ctenophora Genomes | 306622 |  | N228 |
|  | Ct\_Dgl\_02 | Ctenophora Genomes | 306068 |  | N250 |
| *Euplokamis dunlapae* | Ct\_Edu\_01 | Ctenophora Genomes | 10651747 |  |  |
|  | Ct\_Edu\_02 | Ctenophora Genomes | 10651741 |  | N228 |
|  | Ct\_Edu\_03 | Ctenophora Genomes | 10635300 | N53 | N262 |
| *Vallicula multiformis* | Ct\_Vmu\_01 | Ctenophora Genomes | 445178 |  | N249 |
|  | Ct\_Vmu\_02 | Ctenophora Genomes | 470312 |  | N259 |
|  | Ct\_Vmu\_03 | Ctenophora Genomes | 445166 |  | N251 |
| *Pleurobrachia bachei pileus* | Ct\_Pbp\_01 | Ctenophora Genomes | 12713923 | N112 |  |
|  | Ct\_Pbp\_02 | Ctenophora Genomes | 12681783 |  | N228 |
|  | Ct\_Pbp\_03 | Ctenophora Genomes | 12713172 |  | N220 |
|  | Ct\_Pbp\_04 | Ctenophora Genomes | 12728891 |  | N269 |
|  | *Hormiphora californensis* | Ct\_Hca\_01 | NCBI TSA | GGLO01022876.1 |  | 237 |
|  |  | Ct\_Hca\_02 | NCBI TSA | GGLO01032427.1 | 79 |  |
|  |  | Ct\_Hca\_03 | NCBI TSA | GGLO01040902.1 |  |  |
|  |  | Ct\_Hca\_04 | NCBI TSA | GGLO01044036.1 |  | 228 |
|  |  | Ct\_Hca\_05 | NCBI TSA | GGLO01055378.1 | 112 | 269 |
|  |  | Ct\_Hca\_06 | NCBI TSA | GGLO01061621.1 |  | 249 |
|  |  | Ct\_Hca\_07 | NCBI TSA | GGLO01065756.1 |  | 250 |
|  |  | Ct\_Hca\_08 | NCBI TSA | GGLO01068976.1 |  | 255 |
|  |  | Ct\_Hca\_09 | NCBI TSA | GGLO01006002.1 | 45 | 254 |
|  | *Mnemiopsis leidyi* | Ct\_Mle\_01 | NCBI TSA | GFAT01025049.1 |  | 227 |
|  |  | Ct\_Mle\_02 | NCBI TSA | GFAT01117950.1 |  |  |
|  |  | Ct\_Mle\_03 | NCBI TSA | GFAT01120318.1 |  | 255 |
|  |  | Ct\_Mle\_04 | NCBI TSA | GFAT01094561.1 | 45 | 254 |
|  |  | Ct\_Mle\_05 | NCBI TSA | GFAT01105573.1 | 113 | 268 |
|  |  | Ct\_Mle\_06 | NCBI TSA | GFAT01121941.1 | 113 | 250 |
|  |  | Ct\_Mle\_07 | NCBI TSA | GFAT01021321.1 |  |  |
|  |  | Ct\_Mle\_08 | NCBI TSA | GFAT01080557.1 |  |  |
|  |  | Ct\_Mle\_09 | NCBI TSA | GFAT01054502.1 |  |  |
|  |  | Ct\_Mle\_10 | NCBI TSA | GFAT01043162.1 |  |  |
|  | *Beroe forskalii* | Ct\_Bfo\_01 | NCBI TSA | GHXY01066206.1 |  |  |
|  |  | Ct\_Bfo\_02 | NCBI TSA | GHXY01167744.1 |  |  |
|  |  | Ct\_Bfo\_03 | NCBI TSA | GHXY01095479.1 | 45 | 254 |
|  |  | Ct\_Bfo\_04 | NCBI TSA | GHXY01306105.1 |  |  |
|  |  | Ct\_Bfo\_05 | NCBI TSA | GHXY01122284.1 |  | 265 |
|  |  | Ct\_Bfo\_06 | NCBI TSA | GHXY01246062.1 | 96 |  |
|  |  | Ct\_Bfo\_07 | NCBI TSA | GHXY01206238.1 | 37 | 242 |
|  |  | Ct\_Bfo\_08 | NCBI TSA | GHXY01236032.1 |  |  |
|  |  | Ct\_Bfo\_09 | NCBI TSA | GHXY01235258.1 |  |  |
|  |  | Ct\_Bfo\_10 | NCBI TSA | GHXY01019817.1 |  |  |

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| **Cnidarians** | *Hydra vulgaris* | Cn\_Hvu\_01 | UniProt | A0A0H5FNA2 |  | N248 |
| Cn\_Hvu\_02 | UniProt | A0A5B8ICA4 | N81 |  |
| Cn\_Hvu\_03 | UniProt | A0A5B8HTC1 |  |  |
| Cn\_Hvu\_04 | UniProt | A0A0H5FN97 | N82 |  |
| Cn\_Hvu\_05 | UniProt | A0A5B8IM55 |  | N236 |
| Cn\_Hvu\_06 | UniProt | A0A5B8IDH4 | N84 N119 | N221 |
| Cn\_Hvu\_07 | UniProt | A0A5B8HUL2 |  |  |
| Cn\_Hvu\_08 | UniProt | A0A5B8IFJ1 |  | N242 |
| Cn\_Hvu\_09 | UniProt | A0A5B8IM45 | N83 | N237 |
| Cn\_Hvu\_10 | UniProt | A0A0H5FMF0 |  |  |
| Cn\_Hvu\_11 | UniProt | A0A5B8IE58 | N60 |  |
| Cn\_Hvu\_12 | UniProt | A0A5B8IC97 |  |  |
| Cn\_Hvu\_13 | UniProt | A0A5B8IM66 | N87 | N242 |
| Cn\_Hvu\_14 | UniProt | A0A5B8HVL4 | N81 | N232 |
| Cn\_Hvu\_15 | UniProt | A0A5B8HTC8 |  |  |
| Cn\_Hvu\_16 | UniProt | A0A5B8HVK5 | N102 N108 |  |
| Cn\_Hvu\_17 | UniProt | A0A5B8IFV2 | N51 | N250 |
| Cn\_Hvu\_18 | UniProt | A0A5B8IE64 |  |  |
| Cn\_Hvu\_19 | UniProt | Q2EMV6 | N49 |  |
| *Clytia hemisphaerica* | Cn\_Che\_01 | Marimba genome database | TCONS\_00000247 |  |  |
| Cn\_Che\_02 | Marimba genome database | TCONS\_00001207 |  |  |
| Cn\_Che\_03 | Marimba genome database | TCONS\_00003109 | N53 |  |
| Cn\_Che\_04 | Marimba genome database | TCONS\_00003336 |  |  |
| Cn\_Che\_05 | Marimba genome database | TCONS\_00010894 | N102 |  |
| Cn\_Che\_06 | Marimba genome database | TCONS\_00011573 |  |  |
| Cn\_Che\_07 | Marimba genome database | TCONS\_00011578 |  |  |
| Cn\_Che\_08 | Marimba genome database | TCONS\_00017253 |  |  |
| Cn\_Che\_09 | Marimba genome database | TCONS\_00017255 |  |  |
| Cn\_Che\_10 | Marimba genome database | TCONS\_00018944 |  |  |
| Cn\_Che\_11 | Marimba genome database | TCONS\_00024463 |  |  |
| Cn\_Che\_12 | Marimba genome database | TCONS\_00024465 |  |  |
| Cn\_Che\_13 | Marimba genome database | TCONS\_00025865 |  |  |
| Cn\_Che\_14 | Marimba genome database | TCONS\_00029525 | N87 |  |
| Cn\_Che\_15 | Marimba genome database | TCONS\_00029535 | N91 |  |
| Cn\_Che\_16 | Marimba genome database | TCONS\_00031259 |  |  |
| Cn\_Che\_17 | Marimba genome database | TCONS\_00031261 |  | N285 |
| Cn\_Che\_18 | Marimba genome database | TCONS\_00044548 |  |  |
| Cn\_Che\_19 | Marimba genome database | TCONS\_00058825 |  |  |
| Cn\_Che\_20 | Marimba genome database | TCONS\_00059268 |  |  |
| Cn\_Che\_21 | Marimba genome database | TCONS\_00062505 | N44 |  |
| Cn\_Che\_22 | Marimba genome database | TCONS\_00062506 |  |  |
| Cn\_Che\_23 | Marimba genome database | TCONS\_00062507 |  |  |
| Cn\_Che\_24 | Marimba genome database | TCONS\_00062512 |  |  |
| Cn\_Che\_25 | Marimba genome database | TCONS\_00069173 |  |  |
| Cn\_Che\_26 | Marimba genome database | TCONS\_00069175 |  |  |
| Cn\_Che\_27 | Marimba genome database | TCONS\_00072805 |  |  |
|  | *Nematostella vectensis* | Cn\_Nve\_01 | UniProt | A7SWW1 | N62 |  |
|  |  | Cn\_Nve\_02 | UniProt | A7SYJ2 | N75 | N221 N235 |
|  | *Exaiptasia diaphana* | Cn\_Edi\_01 | NCBI | XP\_020904565.1 | N53 N58 |  |
|  |  | Cn\_Edi\_02 | NCBI | XP\_020900435.1 | N74 |  |
|  | *Actinia tenebrosa* | Cn\_Ate\_01 | UniProt | A0A6P8HQY0 | N80 |  |
|  |  | Cn\_Ate\_02 | UniProt | A0A6P8HHL7 | N61 N82 |  |
|  | *Pocillopora damicornis* | Cn\_Pda\_01 | UniProt | A0A3M6UTQ1 | N57 |  |
|  | *Siderastrea siderea* | Cn\_Ssi\_01 | NCBI TSA | GIYO011393513.1 |  |  |
|  |  | Cn\_Ssi\_02 | NCBI TSA | GIYO011129280.1 |  |  |
|  | *Eleutherobia rubra* | Cn\_Eru\_01 | NCBI TSA | GHFI01133402.1 |  |  |
|  |  | Cn\_Eru\_02 | NCBI TSA | GHFI01002934.1 |  | N239 |
|  | *Craterolophus convolvulus* | Cn\_Cco\_01 | NCBI TSA | HAGZ01035836.1 |  |  |
|  |  | Cn\_Cco\_02 | NCBI TSA | HAGZ01056096.1 |  |  |
|  | *Heliopora coerulea* | Cn\_Hco\_01 | NCBI TSA | GFVH01062719.1 |  | N211 |
|  |  | Cn\_Hco\_02 | NCBI TSA | GFVH01011767.1 |  |  |
|  | Edwardsiella carnea | Cn\_Eca\_01 | NCBI TSA | GGGD01237239.1 |  | N167 |
|  |  | Cn\_Eca\_02 | NCBI TSA | GGGB01116366.1 |  | N250 |
|  | Millepora complanata | Cn\_Mco\_01 | NCBI TSA | GFGT01166911.1 |  |  |
|  |  | Cn\_Mco\_02 | NCBI TSA | GFGT01165632.1 |  |  |
|  |  | Cn\_Mco\_03 | NCBI TSA | GIXC01109936.1 |  |  |
|  |  | Cn\_Mco\_04 | NCBI TSA | GFGT01268751.1 |  | N237 |
|  |  | Cn\_Mco\_05 | NCBI TSA | GIXC01116098.1 | N42 |  |
|  |  | Cn\_Mco\_06 | NCBI TSA | GFGT01088465.1 | N95 |  |
|  |  | Cn\_Mco\_07 | NCBI TSA | GIXC01078866.1 |  | N232 N237 |
|  |  | Cn\_Mco\_08 | NCBI TSA | GFGT01270854.1 |  |  |
|  |  | Cn\_Mco\_09 | NCBI TSA | GFGT01258618.1 |  | N237 |
|  |  | Cn\_Mco\_10 | NCBI TSA | GIXC01049302.1 |  |  |
|  | Millepora alcicornis | Cn\_Mal\_01 | NCBI TSA | GFAS01149004.1 |  |  |
|  |  | Cn\_Mal\_02 | NCBI TSA | GFAS01300238.1 |  |  |
|  |  | Cn\_Mal\_03 | NCBI TSA | GFAS01266418.1 |  |  |
|  |  | Cn\_Mal\_04 | NCBI TSA | GFAS01264651.1 |  |  |
|  |  | Cn\_Mal\_05 | NCBI TSA | GFAS01264650.1 |  |  |
|  |  | Cn\_Mal\_06 | NCBI TSA | GFAS01150958.1 | N42 |  |
|  |  | Cn\_Mal\_07 | NCBI TSA | GFAS01158523.1 | N95 |  |
|  |  | Cn\_Mal\_08 | NCBI TSA | GFAS01265729.1 |  | N237 |
|  |  | Cn\_Mal\_09 | NCBI TSA | GFAS01367969.1 |  | N240 |

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| **Molluscs** | *Lottia gigantea* | Mo\_Lgi\_01 | UniProt | V3ZUL3 |  |  |
| Mo\_Lgi\_02 | UniProt | V4BES3 |  |  |
| Mo\_Lgi\_03 | UniProt | V3Z652 |  |  |
| Mo\_Lgi\_04 | UniProt | V3ZZ22 |  |  |
| Mo\_Lgi\_05 | UniProt | V4CFP8 |  |  |
| Mo\_Lgi\_06 | UniProt | V3ZB67 |  |  |
| Mo\_Lgi\_07 | UniProt | V4B596 | N43 |  |
| Mo\_Lgi\_08 | UniProt | V4B6S1 |  |  |
| Mo\_Lgi\_09 | UniProt | V4AP14 | N79 | N201 |
| Mo\_Lgi\_10 | UniProt | V4B7P6 | N80 |  |
| Mo\_Lgi\_11 | UniProt | V3ZQ73 |  | N189 |
| *Elysia chlorotica* | Mo\_Ech\_01 | UniProt | A0A433U5C1 |  |  |
| Mo\_Ech\_02 | UniProt | A0A3S1HEP5 |  |  |
| Mo\_Ech\_03 | UniProt | A0A433TMI6 |  |  |
| Mo\_Ech\_04 | UniProt | A0A433SJ02 |  |  |
| Mo\_Ech\_05 | UniProt | A0A3S1AXY1 |  |  |
| Mo\_Ech\_06 | UniProt | A0A433SLC1 | N103 |  |
| Mo\_Ech\_07 | UniProt | A0A3S0ZM93 | N60 |  |
| *Arion vulgaris* | Mo\_Avu\_01 | UniProt | A0A0B7AXD1 |  |  |
| Mo\_Avu\_02 | UniProt | A0A0B6ZJX8 |  |  |
| Mo\_Avu\_03 | UniProt | A0A0B7A580 | N96 | N286 |
| Mo\_Avu\_04 | UniProt | A0A6C0X763 |  |  |
| *Lymnaea stagnalis* | Mo\_Lst\_01 | UniProt | A0A6C0X6W2 |  |  |
| Mo\_Lst\_02 | UniProt | A0A6C0X6V8 | N90 |  |
| Mo\_Lst\_03 | UniProt | A0A6C0X6W3 | N63 |  |
| Mo\_Lst\_04 | UniProt | A0A6C0X756 |  |  |
| Mo\_Lst\_05 | UniProt | A0A6C0X7M7 |  |  |
| Mo\_Lst\_06 | UniProt | A0A6C0XAN5 |  |  |
| Mo\_Lst\_07 | UniProt | A0A6C0X6X8 |  |  |
| *Biomphalaria glabrata* | Mo\_Bgl\_01 | UniProt | A0A2C9JXW7 | N90 |  |
| Mo\_Bgl\_02 | UniProt | A0A2C9K9P9 |  | N270 |
| Mo\_Bgl\_03 | UniProt | A0A2C9K256 | N63 |  |
| Mo\_Bgl\_04 | UniProt | A0A2C9K9P1 |  | N252 |
| Mo\_Bgl\_05 | UniProt | A0A2C9K7D5 |  |  |
| Mo\_Bgl\_06 | UniProt | A0A2C9K7D2 |  |  |
| Mo\_Bgl\_07 | UniProt | A0A2C9JTY8 |  |  |
| Mo\_Bgl\_08 | UniProt | A0A2C9K7H8 |  |  |
| Mo\_Bgl\_09 | UniProt | A0A2C9K9V1 |  | N250 |
| Mo\_Bgl\_10 | UniProt | A0A2C9K9N7 |  | N251 |
| Mo\_Bgl\_11 | UniProt | A0A2C9K9P0 |  | N270 |
| Mo\_Bgl\_12 | UniProt | A0A2C9JQ58 |  |  |
| Mo\_Bgl\_13 | UniProt | A0A2C9JTY6 |  | N280 |
| Mo\_Bgl\_14 | UniProt | A0A2C9JQ78 |  |  |
| Mo\_Bgl\_15 | UniProt | A0A2C9K9P4 |  | N262 |
| Mo\_Bgl\_16 | UniProt | A0A2C9JTY7 |  | N274 |
| *Aplysia californica* | Mo\_Aca\_01 | UniProt | Q29ZM7 |  | N277 |
| Mo\_Aca\_02 | UniProt | Q29ZM8 |  |  |
| Mo\_Aca\_03 | UniProt | Q4VTM8 |  |  |
| Mo\_Aca\_04 | UniProt | Q4VTM7 |  |  |
| Mo\_Aca\_05 | UniProt | Q2VTF0 |  |  |
| Mo\_Aca\_06 | UniProt | Q2VTE9 |  |  |
| *Pomacea canaliculata* | Mo\_Pca\_01 | UniProt | A0A2T7PX60 |  |  |
| Mo\_Pca\_02 | UniProt | A0A2T7Q090 |  |  |
| Mo\_Pca\_03 | UniProt | A0A2T7PCW5 | N86 N91 |  |
| Mo\_Pca\_04 | UniProt | A0A2T7PCW7 | N87 N92 |  |
| *Mizuhopecten yessoensis* | Mo\_Mye\_01 | UniProt | A0A210QU16 |  |  |
| Mo\_Mye\_02 | UniProt | A0A210QKE5 |  |  |
| Mo\_Mye\_03 | UniProt | A0A210QP80 |  |  |
| Mo\_Mye\_04 | UniProt | A0A210Q0W3 |  |  |
| Mo\_Mye\_05 | UniProt | A0A210QKJ5 |  |  |
| Mo\_Mye\_06 | UniProt | A0A210Q013 |  |  |
| Mo\_Mye\_07 | UniProt | A0A210PLR5 |  | N220 N259 |
| Mo\_Mye\_08 | UniProt | A0A210PFY8 |  |  |
| Mo\_Mye\_09 | UniProt | A0A210PLM9 | N47 | N208 N223 N262 |
| Mo\_Mye\_10 | UniProt | A0A210QY59 |  |  |
| Mo\_Mye\_11 | UniProt | A0A210QKF8 |  |  |
| Mo\_Mye\_12 | UniProt | A0A210Q038 |  |  |
| Mo\_Mye\_13 | UniProt | A0A210Q015 |  |  |
| Mo\_Mye\_14 | UniProt | A0A210Q0V7 |  |  |
| Mo\_Mye\_15 | UniProt | A0A210Q0T3 |  |  |
| Mo\_Mye\_16 | UniProt | A0A210Q0Y0 |  |  |
| Mo\_Mye\_17 | UniProt | A0A210QKF3 |  |  |
| Mo\_Mye\_18 | UniProt | A0A210Q018 |  |  |
| Mo\_Mye\_19 | UniProt | A0A210R591 |  | N267 N282 N321 |
| *Mytilus coruscus* | Mo\_Mco\_01 | UniProt | A0A6J8A5F4 | N496 |  |
| Mo\_Mco\_02 | UniProt | A0A6J8A5X3 |  |  |
| Mo\_Mco\_03 | UniProt | A0A6J8ATL8 |  |  |
| Mo\_Mco\_04 | UniProt | A0A6J8AI89 |  | N228 |
| Mo\_Mco\_05 | UniProt | A0A6J8A2Y9 |  |  |
| Mo\_Mco\_06 | UniProt | A0A6J8EIE0 | N44 N58 | N229 N257 |
| Mo\_Mco\_07 | UniProt | A0A6J8DQI7 |  |  |
| Mo\_Mco\_08 | UniProt | A0A6J8AU36 |  |  |
| Mo\_Mco\_09 | UniProt | A0A6J8E211 |  |  |
| Mo\_Mco\_10 | UniProt | A0A6J8BWJ7 |  |  |
| Mo\_Mco\_11 | UniProt | A0A6J8A627 | N89 |  |
| Mo\_Mco\_12 | UniProt | A0A6J8EAI6 |  | N228 |
| Mo\_Mco\_13 | UniProt | A0A6J8A621 |  |  |
| Mo\_Mco\_14 | UniProt | A0A6J8EAY9 |  |  |
| Mo\_Mco\_15 | UniProt | A0A6J8AV31 |  |  |
| Mo\_Mco\_16 | UniProt | A0A6J8AWM1 |  |  |
| *Crassostrea gigas* | Mo\_Cgi\_01 | UniProt | K1PJW3 |  |  |
| Mo\_Cgi\_02 | UniProt | K1QCA5 |  |  |
| Mo\_Cgi\_03 | UniProt | K1Q8X2 |  |  |
| Mo\_Cgi\_04 | UniProt | K1Q160 |  |  |
| Mo\_Cgi\_05 | UniProt | K1Q539 |  |  |
| Mo\_Cgi\_06 | UniProt | K1Q8H1 |  |  |
| Mo\_Cgi\_07 | UniProt | K1QFN4 |  |  |
| Mo\_Cgi\_08 | UniProt | K1PRS3 |  |  |
| Mo\_Cgi\_09 | UniProt | K1PTR0 |  |  |
| Mo\_Cgi\_10 | UniProt | K1QY06 | N95 |  |
| Mo\_Cgi\_11 | UniProt | K1PIY5 |  |  |
| Mo\_Cgi\_12 | UniProt | K1PRW3 |  |  |
| Mo\_Cgi\_13 | UniProt | K1RGD8 |  |  |
| Mo\_Cgi\_14 | UniProt | K1P371 |  |  |
| *Octopus bimaculoides* | Mo\_Obi\_01 | UniProt | A0A0L8HEL8 |  |  |
| Mo\_Obi\_02 | UniProt | A0A0L8G1Q2 |  |  |
| Mo\_Obi\_03 | UniProt | A0A0L8HEP5 |  |  |
| Mo\_Obi\_04 | UniProt | A0A0L8HEJ9 |  |  |
| Mo\_Obi\_05 | UniProt | A0A0L8GUL7 |  |  |
| Mo\_Obi\_06 | UniProt | A0A0L8HEI3 |  |  |
| Mo\_Obi\_07 | UniProt | A0A0L8HQL9 |  | N240 |
| *Octopus vulgaris* | Mo\_Ovu\_01 | UniProt | A0A6P7U9Y9 |  |  |
| Mo\_Ovu\_02 | UniProt | A0A6P7UB50 |  |  |
| Mo\_Ovu\_03 | UniProt | A0A6P7U709 |  |  |
| Mo\_Ovu\_04 | UniProt | A0A6P7U5G9 |  |  |
| Mo\_Ovu\_05 | UniProt | A0A6P7U5G7 |  |  |
| Mo\_Ovu\_06 | UniProt | A0A6P7U1Q6 |  |  |
| Mo\_Ovu\_07 | UniProt | A0A6P7U1Q1 |  |  |
| Mo\_Ovu\_08 | UniProt | A0A6P7U3T0 |  |  |
| Mo\_Ovu\_09 | UniProt | A0A6P7TWM1 |  |  |
| Mo\_Ovu\_10 | UniProt | A0A6P7TWL7 |  |  |
| Mo\_Ovu\_11 | UniProt | A0A6P7TWL4 |  |  |
| Mo\_Ovu\_12 | UniProt | A0A6P7U686 |  |  |
| Mo\_Ovu\_13 | UniProt | A0A6P7THX3 |  |  |
| Mo\_Ovu\_14 | UniProt | A0A6P7TEU0 |  |  |
| Mo\_Ovu\_15 | UniProt | A0A6P7UAA3 |  |  |
| Mo\_Ovu\_16 | UniProt | A0A6P7U2Y4 |  |  |
| Mo\_Ovu\_17 | UniProt | A0A6P7T9V3 |  |  |
| Mo\_Ovu\_18 | UniProt | A0A6P7TSX3 |  |  |
| Mo\_Ovu\_19 | UniProt | A0A6P7TS66 |  | N242 |
| Mo\_Ovu\_20 | UniProt | A0A6P7U9N6 |  |  |
| Mo\_Ovu\_21 | UniProt | A0A6P7TBX9 |  |  |

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| **Annelids** | *Helobdella robusta* | An\_Hro\_01 | UniProt | T1FVB5 | N79 | N267 |
| An\_Hro\_02 | UniProt | T1EE00 |  | N273 |
| An\_Hro\_03 | UniProt | T1ED09 |  |  |
| An\_Hro\_04 | UniProt | T1G9L4 |  |  |
| An\_Hro\_05 | UniProt | T1G942 |  |  |
| An\_Hro\_06 | UniProt | T1FF42 |  | N229 |
| An\_Hro\_07 | UniProt | T1G065 |  |  |
| An\_Hro\_08 | UniProt | T1FAN8 |  |  |
| An\_Hro\_09 | UniProt | T1EFQ7 |  |  |
| An\_Hro\_10 | UniProt | T1FN93 |  | N276 |
| An\_Hro\_11 | UniProt | T1FHL5 |  |  |
| An\_Hro\_12 | UniProt | T1F3K5 |  |  |
| An\_Hro\_13 | UniProt | T1G9C5 |  |  |
| An\_Hro\_14 | UniProt | T1ELD9 |  |  |
| An\_Hro\_15 | UniProt | T1G4P9 |  | N266 |
| An\_Hro\_16 | UniProt | T1G1G0 | N90 | N247 |
| An\_Hro\_17 | UniProt | T1FMB3 |  |  |
| An\_Hro\_18 | UniProt | T1EHZ6 |  |  |
| An\_Hro\_19 | UniProt | T1EHZ5 | N59 | N209 |
| *Hirudo medicinalis* | An\_Hme\_01 | UniProt | Q38HR5 | N78 N93 |  |
| An\_Hme\_02 | UniProt | Q38HR8 |  | N284 |
| An\_Hme\_03 | UniProt | Q38HR7 |  |  |
| An\_Hme\_04 | UniProt | Q38HR0 |  |  |
| An\_Hme\_05 | UniProt | Q8I6U2 |  |  |
| An\_Hme\_06 | UniProt | Q38HR6 |  | N236 |
| An\_Hme\_07 | UniProt | Q38HR2 |  |  |
| An\_Hme\_08 | UniProt | Q8I6U1 |  |  |
| An\_Hme\_09 | UniProt | Q38HQ9 |  |  |
| *Hirudo verbana* | An\_Hve\_01 | UniProt | H9C4Q5 |  | N272 N390 N401 |
| An\_Hve\_02 | UniProt | H9C4Q4 | N78 N93 |  |
| An\_Hve\_03 | UniProt | H9C4Q1 |  | N284 |
| An\_Hve\_04 | UniProt | H9C4R1 |  |  |
| An\_Hve\_05 | UniProt | H9C4R3 | N83 |  |
| An\_Hve\_06 | UniProt | H9C4R4 |  |  |
| An\_Hve\_07 | UniProt | H9C4R0 |  |  |
| An\_Hve\_08 | UniProt | H9C4Q2 |  |  |
| An\_Hve\_09 | UniProt | H9C4R8 |  |  |
| An\_Hve\_10 | UniProt | H9C4Q8 |  |  |
| An\_Hve\_11 | UniProt | H9C4P9 |  |  |
| An\_Hve\_12 | UniProt | H9C4R9 |  |  |
| An\_Hve\_13 | UniProt | H9C4R6 |  |  |
| An\_Hve\_14 | UniProt | H9C4Q3 |  | N236 |
| An\_Hve\_15 | UniProt | H9C4R7 |  |  |
| An\_Hve\_16 | UniProt | H9C4Q7 |  |  |
| An\_Hve\_17 | UniProt | H9C4Q6 |  | N269 |
| An\_Hve\_18 | UniProt | H9C4R5 |  | N270 |
| An\_Hve\_19 | UniProt | H9C4Q9 |  |  |
| An\_Hve\_20 | UniProt | H9C4Q0 |  |  |
| An\_Hve\_21 | UniProt | H9C4R2 |  | N242 |
| *Capitella teleta* | An\_Cte\_01 | UniProt | R7VAX0 | N74 | N248 |
| An\_Cte\_02 | UniProt | R7TDU4 | N73 | N228 |
| An\_Cte\_03 | UniProt | R7T8F9 |  |  |
| An\_Cte\_04 | UniProt | R7TLR9 |  |  |
| An\_Cte\_05 | UniProt | R7TQK9 |  |  |
| An\_Cte\_06 | UniProt | R7T7A0 |  |  |
| An\_Cte\_07 | UniProt | R7UJV0 |  |  |
| An\_Cte\_08 | UniProt | R7VBV6 |  |  |
| An\_Cte\_09 | UniProt | R7TBJ6 |  |  |
| An\_Cte\_10 | UniProt | R7UTT6 |  |  |
| An\_Cte\_11 | UniProt | R7VJQ0 |  |  |
| An\_Cte\_12 | UniProt | R7VBF2 |  | N237 |
| An\_Cte\_13 | UniProt | R7UVR0 |  |  |
| An\_Cte\_14 | UniProt | R7TBW5 |  |  |
| An\_Cte\_15 | UniProt | R7ULH1 |  |  |
| An\_Cte\_16 | UniProt | R7V9G1 |  |  |
| An\_Cte\_17 | UniProt | R7VJN8 | N66 | N237 |
| An\_Cte\_18 | UniProt | R7VBR0 |  | N237 |
| *Dimorphilus gyrociliatus* | An\_Dgy\_01 | NCBI | CAD5119303.1 |  |  |
| An\_Dgy\_02 | NCBI | CAD5113738.1 |  |  |
| An\_Dgy\_03 | NCBI | CAD5124943.1 |  |  |
| An\_Dgy\_04 | NCBI | CAD5113458.1 |  |  |
| An\_Dgy\_05 | NCBI | CAD5126531.1 |  |  |
| An\_Dgy\_06 | NCBI | CAD5119206.1 | N74 |  |
| An\_Dgy\_07 | NCBI | CAD5112293.1 |  |  |
| An\_Dgy\_08 | NCBI | CAD5126052.1 |  |  |
| An\_Dgy\_09 | NCBI | CAD5111819.1 |  |  |
| An\_Dgy\_10 | NCBI | CAD5118918.1 |  |  |
| An\_Dgy\_11 | NCBI | CAD5124621.1 |  |  |
| An\_Dgy\_12 | NCBI | CAD5124521.1 |  |  |
| An\_Dgy\_13 | NCBI | CAD5126051.1 |  | N236 |
| An\_Dgy\_14 | NCBI | CAD5113443.1 |  |  |
| An\_Dgy\_15 | NCBI | CAD5111855.1 |  |  |
| An\_Dgy\_16 | NCBI | CAD5111258.1 |  |  |
| An\_Dgy\_17 | NCBI | CAD5118919.1 |  | N226 |
| An\_Dgy\_18 | NCBI | CAD5120958.1 |  |  |
| An\_Dgy\_19 | NCBI | CAD5123465.1 |  |  |
| An\_Dgy\_20 | NCBI | CAD5116783.1 |  |  |

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| **Plathyhelminthes** | *Clonorchis sinensis* | Pl\_Csi\_01 | UniProt | A0A3R7H257 |  |  |
| Pl\_Csi\_02 | UniProt | G7Y9E1 |  | N230 |
| Pl\_Csi\_03 | UniProt | G7YWN9 |  |  |
| Pl\_Csi\_04 | UniProt | A0A3R7CWM9 |  |  |
| Pl\_Csi\_05 | UniProt | G7YU10 |  |  |
| Pl\_Csi\_06 | UniProt | H2KV19 |  | N238 |
| Pl\_Csi\_07 | UniProt | G7Y5Y1 |  |  |
| Pl\_Csi\_08 | UniProt | G7YTE6 |  |  |
| Pl\_Csi\_09 | UniProt | A0A419PPW6 |  |  |
| Pl\_Csi\_10 | UniProt | G7YNX9 |  |  |
| Pl\_Csi\_11 | UniProt | H2KP29 | N78 | N262 |
| Pl\_Csi\_12 | UniProt | H2KP32 | N84 |  |
| Pl\_Csi\_13 | UniProt | G7YGP3 |  |  |
| *Opisthorchis felineus* | Pl\_Ofe\_01 | UniProt | A0A4S2MGE2 |  |  |
| Pl\_Ofe\_02 | UniProt | A0A4S2LLY4 |  | N234 |
| Pl\_Ofe\_03 | UniProt | A0A4S2MFV9 |  |  |
| Pl\_Ofe\_04 | UniProt | A0A4S2LNS4 |  | N220 |
| Pl\_Ofe\_05 | UniProt | A0A4S2M9Y6 |  |  |
| Pl\_Ofe\_06 | UniProt | A0A4S2LZ48 |  |  |
| Pl\_Ofe\_07 | UniProt | A0A4S2LMZ1 |  |  |
| Pl\_Ofe\_08 | UniProt | A0A4S2LTJ3 | N84 |  |
| Pl\_Ofe\_09 | UniProt | A0A4S2LXE0 |  | N228 N283 |
| Pl\_Ofe\_10 | UniProt | A0A4S2LT02 | N78 | N262 |
| Pl\_Ofe\_11 | UniProt | A0A4S2LM37 |  |  |
| Pl\_Ofe\_12 | UniProt | A0A4S2LMY6 |  |  |
| Pl\_Ofe\_13 | UniProt | A0A4S2LVS8 |  | N220 |
| Pl\_Ofe\_14 | UniProt | A0A4S2LXD4 |  | N491 |
| Pl\_Ofe\_15 | UniProt | A0A4S2M067 |  | N238 |
| Pl\_Ofe\_16 | UniProt | A0A4S2MA48 |  |  |
| Pl\_Ofe\_17 | UniProt | A0A4S2M8B5 |  |  |
| *Opisthorchis viverrini* | Pl\_Ovi\_01 | UniProt | A0A075AFI6 |  |  |
| Pl\_Ovi\_02 | UniProt | A0A074Z8T4 |  |  |
| Pl\_Ovi\_03 | UniProt | A0A074ZIA2 | N78 | N262 |
| Pl\_Ovi\_04 | UniProt | A0A074Z5D4 |  |  |
| Pl\_Ovi\_05 | UniProt | A0A074ZMI3 |  | N220 |
| Pl\_Ovi\_06 | UniProt | A0A1S8WYC1 |  |  |
| Pl\_Ovi\_07 | UniProt | A0A075ACT2 |  |  |
| Pl\_Ovi\_08 | UniProt | A0A074ZTZ3 |  | N220 |
| Pl\_Ovi\_09 | UniProt | A0A074ZHH4 |  | N419 |
| Pl\_Ovi\_10 | UniProt | A0A1S8WVZ6 |  |  |
| Pl\_Ovi\_11 | UniProt | A0A075A080 |  | N234 |
| Pl\_Ovi\_12 | UniProt | A0A1S8X698 | N84 |  |
| Pl\_Ovi\_13 | UniProt | A0A074ZK86 |  | N238 |
| *Echinostoma caproni* | Pl\_Eca\_01 | UniProt | A0A3P8HMG7 |  | N189 |
| Pl\_Eca\_02 | UniProt | A0A183B3W3 |  |  |
| Pl\_Eca\_03 | UniProt | A0A183AM14 |  | N220 |
| *Fasciola gigantica* | Pl\_Fgi\_01 | UniProt | A0A504Y6X7 |  |  |
| Pl\_Fgi\_02 | UniProt | A0A504Y5J8 | N84 |  |
| Pl\_Fgi\_03 | UniProt | A0A504YQY5 |  | N220 |
| Pl\_Fgi\_04 | UniProt | A0A504Z0Z1 |  |  |
| Pl\_Fgi\_05 | UniProt | A0A504YCS9 |  |  |
| Pl\_Fgi\_06 | UniProt | A0A504YVX0 |  |  |
| *Fasciola hepatica* | Pl\_Fhe\_01 | UniProt | A0A4E0RMZ1 |  | N220 |
| Pl\_Fhe\_02 | UniProt | A0A4E0RPY2 |  | N234 |
| Pl\_Fhe\_03 | UniProt | A0A4E0RW48 | N84 |  |
| Pl\_Fhe\_04 | UniProt | A0A4E0RY00 |  |  |
| Pl\_Fhe\_05 | UniProt | A0A4E0RM26 |  | N228 |
| Pl\_Fhe\_06 | UniProt | A0A4E0R9P5 |  | N220 |
| Pl\_Fhe\_07 | UniProt | A0A4E0RLV9 |  | N238 |
| *Paragonimus westermani* | Pl\_Pwe\_01 | UniProt | A0A5J4NC06 |  |  |
| Pl\_Pwe\_02 | UniProt | A0A5J4NZL2 |  |  |
| Pl\_Pwe\_03 | UniProt | A0A5J4NXS3 |  | N238 |
| Pl\_Pwe\_04 | UniProt | A0A5J4NGN9 | N84 |  |
| Pl\_Pwe\_05 | UniProt | A0A5J4NUC7 | N78 | N265 |
| Pl\_Pwe\_06 | UniProt | A0A5J4NWA9 |  |  |
| Pl\_Pwe\_07 | UniProt | A0A5J4P177 |  | N323 |
| *Schistosoma bovis* | Pl\_Sbo\_01 | UniProt | A0A430QPZ1 | N78 | N262 |
| Pl\_Sbo\_02 | UniProt | A0A430QG77 |  |  |
| Pl\_Sbo\_03 | UniProt | A0A430QL07 |  | N239 |
| Pl\_Sbo\_04 | UniProt | A0A430Q3T5 | N84 |  |
| Pl\_Sbo\_05 | UniProt | A0A430QR17 |  |  |
| Pl\_Sbo\_06 | UniProt | A0A430QDM4 |  | N176 |
| Pl\_Sbo\_07 | UniProt | A0A430QGB7 |  |  |
| *Hymenolepis diminuta* | Pl\_Hdi\_01 | UniProt | A0A564YPR7 | N92 |  |
| Pl\_Hdi\_02 | UniProt | A0A564XVC7 |  | N262 |
| Pl\_Hdi\_03 | UniProt | A0A158QE71 |  | N185 |
| Pl\_Hdi\_04 | UniProt | A0A0R3SD38 |  |  |
| Pl\_Hdi\_05 | UniProt | A0A0R3SQR4 | N84 |  |
| Pl\_Hdi\_06 | UniProt | A0A0R3SV36 | N78 |  |
| Pl\_Hdi\_07 | UniProt | A0A0R3SV62 |  | N260 |
| Pl\_Hdi\_08 | UniProt | A0A0R3SV61 | N81 | N231 |
| Pl\_Hdi\_09 | UniProt | A0A158QC67 |  |  |
| Pl\_Hdi\_10 | UniProt | A0A0R3SVX4 |  |  |
| *Rodentolepis nana* | Pl\_Rna\_01 | UniProt | A0A158QH74 | N64 |  |
| Pl\_Rna\_02 | UniProt | A0A0R3TDA8 |  |  |
| Pl\_Rna\_03 | UniProt | A0A0R3T1H7 | N78 |  |
| Pl\_Rna\_04 | UniProt | A0A158QHF3 |  | N228 |
| Pl\_Rna\_05 | UniProt | A0A0R3TKC3 |  |  |
| Pl\_Rna\_06 | UniProt | A0A0R3TWI3 | N63 N98 | N260 |
| Pl\_Rna\_07 | UniProt | A0A0R3T064 | N84 |  |
| *Mesocestoides corti* | Pl\_Mco\_01 | UniProt | A0A0R3UAK9 | N78 |  |
| Pl\_Mco\_02 | UniProt | A0A158QU82 |  |  |
| Pl\_Mco\_03 | UniProt | A0A158QT43 |  |  |
| Pl\_Mco\_04 | UniProt | A0A0R3UAJ2 | N84 | N229 |
| Pl\_Mco\_05 | UniProt | A0A0R3UG40 |  |  |
| Pl\_Mco\_06 | UniProt | A0A0R3U5K7 |  |  |
| Pl\_Mco\_07 | UniProt | A0A5K3ENU4 |  | N260 |
| Pl\_Mco\_08 | UniProt | A0A3P6HXF4 |  |  |
| Pl\_Mco\_09 | UniProt | A0A0R3U3C1 |  | N238 |
| Pl\_Mco\_10 | UniProt | A0A0R3U194 |  | N180 |
| *Echinococcus multilocularis* | Pl\_Emu\_01 | UniProt | A0A068XY87 |  |  |
| Pl\_Emu\_02 | UniProt | A0A087W1T2 | N93 |  |
| Pl\_Emu\_03 | UniProt | A0A068YAQ8 |  |  |
| Pl\_Emu\_04 | UniProt | A0A068YAY3 |  | N228 |
| Pl\_Emu\_05 | UniProt | A0A068Y5E6 | N78 |  |
| Pl\_Emu\_06 | UniProt | A0A068YJC6 |  |  |
| Pl\_Emu\_07 | UniProt | A0A068XZR8 |  | N240 |
| Pl\_Emu\_08 | UniProt | A0A087W211 |  | N260 |
| Pl\_Emu\_09 | UniProt | A0A068Y3L2 | N90 | N241 |
| Pl\_Emu\_10 | UniProt | A0A087W1G9 |  | N220 |
| Pl\_Emu\_11 | UniProt | A0A068Y6C7 |  | N240 |
| Pl\_Emu\_12 | UniProt | A0A068Y626 | N97 | N248 N263 |
| Pl\_Emu\_13 | UniProt | A0A068Y4N3 | N92 | N238 |
| *Hydatigena taeniaeformis* | Pl\_Hta\_01 | UniProt | A0A0R3X7L4 | N93 |  |
| Pl\_Hta\_02 | UniProt | A0A0R3X485 |  | N192 |
| Pl\_Hta\_03 | UniProt | A0A0R3WPQ8 |  |  |
| Pl\_Hta\_04 | UniProt | A0A0R3WUZ7 | N97 |  |
| Pl\_Hta\_05 | UniProt | A0A0R3WKF9 | N84 |  |
| Pl\_Hta\_06 | UniProt | A0A0R3WK36 | N92 | N238 |
| *Dugesia japonica* | Pl\_Dja\_01 | UniProt | Q2L6M5 | N84 |  |
| Pl\_Dja\_02 | UniProt | Q2L6M9 |  | N220 |
| Pl\_Dja\_03 | UniProt | Q2L6M4 |  |  |
| Pl\_Dja\_04 | UniProt | Q2L6M3 |  |  |
| Pl\_Dja\_05 | UniProt | Q2L6N1 |  |  |
| Pl\_Dja\_06 | UniProt | Q2L6N0 |  |  |
| Pl\_Dja\_07 | UniProt | Q2L6M6 |  |  |
| Pl\_Dja\_08 | UniProt | I7FTZ1 |  |  |
| Pl\_Dja\_09 | UniProt | Q2L6M7 |  | N238 |
| Pl\_Dja\_10 | UniProt | Q2L6N2 |  | N220 |
| *Schmidtea mediterranea* | Pl\_Sme\_01 | UniProt | I1ZIL2 |  | N271 |
| Pl\_Sme\_02 | UniProt | A7RDN9 |  | N254 |
| Pl\_Sme\_03 | UniProt | H9CXU2 | N84 |  |
| *Cryptocotyle lingua* | Pl\_Cli\_01 | NCBI | QQY02540.1 |  |  |
| Pl\_Cli\_02 | NCBI | QQY02564.1 | N71 |  |
| Pl\_Cli\_03 | NCBI | QQY02485.1 |  |  |
| Pl\_Cli\_04 | NCBI | QQY02493.1 |  |  |
| Pl\_Cli\_05 | NCBI | QQY02558.1 |  |  |
| Pl\_Cli\_06 | NCBI | QQY02489.1 |  |  |
| Pl\_Cli\_07 | NCBI | QQY02533.1 |  | N241 |
| Pl\_Cli\_08 | NCBI | QQY02446.1 |  |  |
| Pl\_Cli\_09 | NCBI | QQY02615.1 |  |  |
| Pl\_Cli\_10 | NCBI | QQY02534.1 |  |  |
| Pl\_Cli\_11 | NCBI | QQY02568.1 |  |  |
| Pl\_Cli\_12 | NCBI | QQY02610.1 |  |  |
| Pl\_Cli\_13 | NCBI | QQY02611.1 |  |  |
| *Fasciolopsis buski* | Pl\_Fbu\_01 | NCBI | KAA0191062.1 |  |  |
| Pl\_Fbu\_02 | NCBI | VDP83634.1 |  |  |
| Pl\_Fbu\_03 | NCBI | KAA0199908.1 | N57 | N241 |
| Pl\_Fbu\_04 | NCBI | KAA0189704.1 |  |  |
| Pl\_Fbu\_05 | NCBI | VDP82532.1 |  |  |
| Pl\_Fbu\_06 | NCBI | VDP84140.1 | N44 | N226 |
| Pl\_Fbu\_07 | NCBI | KAA0184863.1 |  | N239 |
| Pl\_Fbu\_08 | NCBI | KAA0190542.1 |  |  |
| Pl\_Fbu\_09 | NCBI | VDP67763.1 |  |  |
| Pl\_Fbu\_10 | NCBI | VDP91171.1 |  |  |
| Pl\_Fbu\_11 | NCBI | KAA0200966.1 |  |  |
| Pl\_Fbu\_12 | NCBI | KAA0188566.1 | N63 |  |
| Pl\_Fbu\_13 | NCBI | KAA0186584.1 |  |  |
| Pl\_Fbu\_14 | NCBI | VDP70436.1 |  |  |
| Pl\_Fbu\_15 | NCBI | KAA0197213.1 |  |  |
| *Schistocephalus solidus* | Pl\_Sso\_01 | NCBI | VDL92445.1 |  |  |
| Pl\_Sso\_02 | NCBI | VDL99099.1 |  |  |
| Pl\_Sso\_03 | NCBI | VDL95133.1 |  |  |
| Pl\_Sso\_04 | NCBI | VDL98495.1 |  |  |
| Pl\_Sso\_05 | NCBI | VDL98447.1 | N63 |  |
| Pl\_Sso\_06 | NCBI | VDL95100.1 |  |  |
| Pl\_Sso\_07 | NCBI | VDL91104.1 |  |  |
| Pl\_Sso\_08 | NCBI | VDM02941.1 |  |  |
| Pl\_Sso\_09 | NCBI | VDL89333.1 |  |  |
| Pl\_Sso\_10 | NCBI | VDL95246.1 |  |  |
| *Sparganum proliferum* | Pl\_Spr\_01 | NCBI | VZI29331.1 |  |  |
| Pl\_Spr\_02 | NCBI | VZI03983.1 |  |  |
| Pl\_Spr\_03 | NCBI | VZI10700.1 |  |  |
| Pl\_Spr\_04 | NCBI | VZI10682.1 |  |  |
| Pl\_Spr\_05 | NCBI | VZI23197.1 |  |  |
| Pl\_Spr\_06 | NCBI | VZI34983.1 |  |  |
| Pl\_Spr\_07 | NCBI | VZH95804.1 | N116 |  |
| Pl\_Spr\_08 | NCBI | VZI31141.1 |  |  |
| Pl\_Spr\_09 | NCBI | VZI30066.1 |  |  |
| Pl\_Spr\_10 | NCBI | VZI33550.1 |  |  |
| Pl\_Spr\_11 | NCBI | VZI24029.1 |  |  |
| Pl\_Spr\_12 | NCBI | VZI34554.1 |  |  |
| *Taenia asiatica* | Pl\_Tas\_01 | NCBI | VDK33906.1 |  |  |
| Pl\_Tas\_02 | NCBI | VDK32103.1 |  |  |
| Pl\_Tas\_03 | NCBI | VDK33160.1 |  |  |
| Pl\_Tas\_04 | NCBI | VDK38412.1 |  |  |
| Pl\_Tas\_05 | NCBI | VDK32282.1 | N71 |  |
| Pl\_Tas\_06 | NCBI | VDK37644.1 |  |  |
| Pl\_Tas\_07 | NCBI | VDK23507.1 | N63 |  |
| Pl\_Tas\_08 | NCBI | VDK34661.1 |  |  |
| Pl\_Tas\_09 | NCBI | VDK25407.1 |  |  |
| Pl\_Tas\_10 | NCBI | VDK21681.1 | N57 |  |
| Pl\_Tas\_11 | NCBI | VDK33161.1 |  |  |
| Pl\_Tas\_12 | NCBI | VDK34188.1 |  |  |
| Pl\_Tas\_13 | NCBI | VDK26693.1 |  |  |
| Pl\_Tas\_14 | NCBI | VDK37646.1 |  |  |

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| **Nematodes** | *Trichinella spiralis* | Ne\_Tsp\_01 | UniProt | A0A0V1AZN6 |  | N241 |
| Ne\_Tsp\_02 | UniProt | A0A0V1B5C2 |  |  |
| Ne\_Tsp\_03 | UniProt | E5SC05 |  | N239 |
| Ne\_Tsp\_04 | UniProt | E5SKQ0 |  |  |
| Ne\_Tsp\_05 | UniProt | A0A0V1AXU9 | N686 |  |
| Ne\_Tsp\_06 | UniProt | A0A0V1C0M8 |  |  |
| Ne\_Tsp\_07 | UniProt | A0A0V1AQR6 |  |  |
| Ne\_Tsp\_08 | UniProt | A0A0V1AZ11 | N80 | N247 |
| Ne\_Tsp\_09 | UniProt | A0A0V1AVK6 |  |  |
| Ne\_Tsp\_10 | UniProt | A0A0V1BVK0 |  |  |
| Ne\_Tsp\_11 | UniProt | A0A0V1BBK8 |  |  |
| *Trichinella britovi* | Ne\_Tbr\_01 | UniProt | A0A0V1CV14 |  | N260 |
| Ne\_Tbr\_02 | UniProt | A0A0V1D3S0 |  | N241 |
| Ne\_Tbr\_03 | UniProt | A0A0V1DGJ5 |  |  |
| Ne\_Tbr\_04 | UniProt | A0A0V1CFF4 |  | N244 |
| Ne\_Tbr\_05 | UniProt | A0A0V1D5G7 |  |  |
| Ne\_Tbr\_06 | UniProt | A0A0V1DDE5 |  |  |
| Ne\_Tbr\_07 | UniProt | A0A0V1D5H4 |  |  |
| Ne\_Tbr\_08 | UniProt | A0A0V1CT34 |  |  |
| Ne\_Tbr\_09 | UniProt | A0A0V1DD77 |  |  |
| Ne\_Tbr\_10 | UniProt | A0A0V1CB37 | N80 | N224 N247 |
| Ne\_Tbr\_11 | UniProt | A0A0V1CU17 |  |  |
| Ne\_Tbr\_12 | UniProt | A0A0V1DIW6 |  |  |
| Ne\_Tbr\_13 | UniProt | A0A0V1CH91 |  |  |
| *Trichinella murrelli* | Ne\_Tmr\_01 | UniProt | A0A0V0TAA3 | N427 |  |
| Ne\_Tmr\_02 | UniProt | A0A0V0U3G8 |  | N400 |
| Ne\_Tmr\_03 | UniProt | A0A0V0TYW8 |  | N241 |
| Ne\_Tmr\_04 | UniProt | A0A0V0TKG9 |  |  |
| Ne\_Tmr\_05 | UniProt | A0A0V0T9L3 |  | N239 |
| Ne\_Tmr\_06 | UniProt | A0A0V0UC99 |  |  |
| Ne\_Tmr\_07 | UniProt | A0A0V0TYV3 |  |  |
| Ne\_Tmr\_08 | UniProt | A0A0V0T8N8 |  |  |
| Ne\_Tmr\_09 | UniProt | A0A0V0TFC5 | N80 | N247 |
| Ne\_Tmr\_10 | UniProt | A0A0V0TFB2 |  |  |
| Ne\_Tmr\_11 | UniProt | A0A0V0TMN6 |  |  |
| *Trichuris muris* | Ne\_Tmu\_01 | UniProt | A0A5S6QY30 |  |  |
| Ne\_Tmu\_02 | UniProt | A0A5S6QQ19 |  |  |
| Ne\_Tmu\_03 | UniProt | A0A5S6QVZ4 |  | N238 |
| Ne\_Tmu\_04 | UniProt | A0A5S6QZJ9 |  | N241 |
| Ne\_Tmu\_05 | UniProt | A0A5S6QHM8 |  |  |
| Ne\_Tmu\_06 | UniProt | A0A5S6QMQ5 |  |  |
| Ne\_Tmu\_07 | UniProt | A0A5S6QDG0 | N81 |  |
| Ne\_Tmu\_08 | UniProt | A0A5S6QT19 |  |  |
| Ne\_Tmu\_09 | UniProt | A0A5S6QLR1 |  |  |
| Ne\_Tmu\_10 | UniProt | A0A5S6QDB5 |  |  |
| Ne\_Tmu\_11 | UniProt | A0A5S6QH92 |  |  |
| *Trichuris trichiura* | Ne\_Ttr\_01 | UniProt | A0A077Z3F7 |  |  |
| Ne\_Ttr\_02 | UniProt | A0A077Z4T1 |  |  |
| Ne\_Ttr\_03 | UniProt | A0A077Z8F8 |  |  |
| Ne\_Ttr\_04 | UniProt | A0A077Z3E1 |  | N242 |
| Ne\_Ttr\_05 | UniProt | A0A077Z457 |  |  |
| Ne\_Ttr\_06 | UniProt | A0A077Z0H5 | N81 |  |
| Ne\_Ttr\_07 | UniProt | A0A077Z0Z3 |  |  |
| Ne\_Ttr\_08 | UniProt | A0A077Z654 |  |  |
| Ne\_Ttr\_09 | UniProt | A0A077ZBD9 |  |  |
| Ne\_Ttr\_10 | UniProt | A0A077Z931 |  |  |
| *Soboliphyme baturini* | Ne\_Sba\_01 | UniProt | A0A183IFX9 |  |  |
| Ne\_Sba\_02 | UniProt | A0A183INN5 |  | N237 |
| Ne\_Sba\_03 | UniProt | A0A183ITJ3 |  |  |
| Ne\_Sba\_04 | UniProt | A0A183IGA6 |  |  |
| Ne\_Sba\_05 | UniProt | A0A183IHM0 |  | N202 |
| *Caenorhabditis elegans* | Ne\_Cel\_01 | UniProt | Q22549 |  | N239 |
| Ne\_Cel\_02 | UniProt | Q21123 |  | N267 |
| Ne\_Cel\_03 | UniProt | Q03412 |  |  |
| Ne\_Cel\_04 | UniProt | Q23157 |  |  |
| Ne\_Cel\_05 | UniProt | O61715 |  |  |
| Ne\_Cel\_06 | UniProt | Q23027 |  |  |
| Ne\_Cel\_07 | UniProt | Q27295 |  |  |
| Ne\_Cel\_08 | UniProt | Q19746 |  | N219 |
| Ne\_Cel\_09 | UniProt | Q9U3K5 | N87 |  |
| Ne\_Cel\_10 | UniProt | O01634 | N99 |  |
| Ne\_Cel\_11 | UniProt | Q9U3N4 |  |  |
| Ne\_Cel\_12 | UniProt | O01393 |  | N223 |
| Ne\_Cel\_13 | UniProt | Q23593 |  |  |
| Ne\_Cel\_14 | UniProt | O61787 |  |  |
| Ne\_Cel\_15 | UniProt | O61788 | N81 | N250 |
| *Pristionchus pacificus* | Ne\_Ppa\_01 | UniProt | H3EMZ9 | N81 | N247 |
| Ne\_Ppa\_02 | UniProt | H3E6H0 |  |  |
| Ne\_Ppa\_03 | UniProt | H3EKV9 |  |  |
| Ne\_Ppa\_04 | UniProt | H3F590 |  | N229 |
| Ne\_Ppa\_05 | UniProt | H3EFE5 |  |  |
| Ne\_Ppa\_06 | UniProt | A0A4X3P932 |  |  |
| Ne\_Ppa\_07 | UniProt | H3F937 |  |  |
| Ne\_Ppa\_08 | UniProt | H3FA02 |  |  |
| Ne\_Ppa\_09 | UniProt | A0A4X3NYP8 | N206 |  |
| Ne\_Ppa\_10 | UniProt | A0A4X3NV72 |  | N254 |
| Ne\_Ppa\_11 | UniProt | H3FY67 |  |  |
| Ne\_Ppa\_12 | UniProt | A0A4X3PCB6 |  |  |
| Ne\_Ppa\_13 | UniProt | A0A4X3NXJ9 |  |  |
| Ne\_Ppa\_14 | UniProt | H3EHR6 | N100 |  |
| Ne\_Ppa\_15 | UniProt | H3EAV4 |  |  |
| Ne\_Ppa\_16 | UniProt | H3EHR4 |  |  |
| Ne\_Ppa\_17 | UniProt | H3EAW6 |  |  |
| Ne\_Ppa\_18 | UniProt | H3DU91 |  |  |
| *Caenorhabditis brenneri* | Ne\_Cbr\_01 | UniProt | G0NJM8 |  |  |
| Ne\_Cbr\_02 | UniProt | G0NVZ8 |  | N267 |
| Ne\_Cbr\_03 | UniProt | G0MB03 |  |  |
| Ne\_Cbr\_04 | UniProt | G0MFM2 |  |  |
| Ne\_Cbr\_05 | UniProt | G0P5C9 | N89 |  |
| Ne\_Cbr\_06 | UniProt | G0NJ70 |  |  |
| Ne\_Cbr\_07 | UniProt | G0NI48 |  |  |
| Ne\_Cbr\_08 | UniProt | G0N574 |  |  |
| Ne\_Cbr\_09 | UniProt | G0NKI0 |  |  |
| Ne\_Cbr\_10 | UniProt | G0MT10 |  | N219 |
| Ne\_Cbr\_11 | UniProt | G0M6M8 | N87 |  |
| Ne\_Cbr\_12 | UniProt | G0PCQ6 | N99 |  |
| Ne\_Cbr\_13 | UniProt | G0MH94 |  |  |
| Ne\_Cbr\_14 | UniProt | G0MBK9 |  | N223 |
| Ne\_Cbr\_15 | UniProt | G0NJH2 |  |  |
| Ne\_Cbr\_16 | UniProt | G0NJM9 |  |  |
| Ne\_Cbr\_17 | UniProt | G0PHX1 |  |  |
| *Dracunculus medinensis* | Ne\_Dme\_01 | UniProt | A0A0N4URD8 |  | N256 |
| Ne\_Dme\_02 | UniProt | A0A0N4UD17 |  |  |
| Ne\_Dme\_03 | UniProt | A0A0N4UJT0 |  |  |
| Ne\_Dme\_04 | UniProt | A0A158Q5J6 |  |  |
| Ne\_Dme\_05 | UniProt | A0A0N4UHQ9 |  | N260 |
| Ne\_Dme\_06 | UniProt | A0A0N4U0E9 |  | N238 |
| Ne\_Dme\_07 | UniProt | A0A158Q618 |  | N215 |
| Ne\_Dme\_08 | UniProt | A0A0N4UAF7 | N100 |  |
| Ne\_Dme\_09 | UniProt | A0A158Q694 |  |  |
| Ne\_Dme\_10 | UniProt | A0A0N4UAF6 |  |  |
| Ne\_Dme\_11 | UniProt | A0A0N4U9U2 |  | N249 |
| Ne\_Dme\_12 | UniProt | A0A0N4U4A2 |  |  |
| Ne\_Dme\_13 | UniProt | A0A0N4UQM8 |  |  |
| *Anisakis simplex* | Ne\_Asi\_01 | UniProt | A0A0M3JUH9 |  | N553 |
| Ne\_Asi\_02 | UniProt | A0A0M3JR29 |  |  |
| Ne\_Asi\_03 | UniProt | A0A158PP29 |  | N297 |
| Ne\_Asi\_04 | UniProt | A0A346RVN4 |  | N239 |
| Ne\_Asi\_05 | UniProt | A0A2R4KQZ7 |  |  |
| Ne\_Asi\_06 | UniProt | A0A346RVL7 |  |  |
| Ne\_Asi\_07 | UniProt | A0A0M3JR87 |  |  |
| Ne\_Asi\_08 | UniProt | A0A0M3JUS4 |  |  |
| Ne\_Asi\_09 | UniProt | A0A2R4KR07 |  |  |
| Ne\_Asi\_10 | UniProt | A0A0M3JU42 |  |  |
| Ne\_Asi\_11 | UniProt | A0A0M3JR88 |  | N253 |
| *Ascaris lumbricoides* | Ne\_Alu\_01 | UniProt | A0A0M3HT97 |  | N273 |
| Ne\_Alu\_02 | UniProt | A0A0M3HMV1 |  |  |
| Ne\_Alu\_03 | UniProt | A0A0M3I3S7 |  |  |
| Ne\_Alu\_04 | UniProt | A0A0M3HNG6 |  |  |
| Ne\_Alu\_05 | UniProt | A0A0M3HRM5 | N82 |  |
| Ne\_Alu\_06 | UniProt | A0A0M3HRI4 | N82 |  |
| *Enterobius vermicularis* | Ne\_Eve\_01 | UniProt | A0A0N4VHQ9 |  | N254 |
| Ne\_Eve\_02 | UniProt | A0A0N4UXC2 |  |  |
| Ne\_Eve\_03 | UniProt | A0A0N4VFE5 |  |  |
| Ne\_Eve\_04 | UniProt | A0A0N4VEZ3 |  | N273 N245 |
| Ne\_Eve\_05 | UniProt | A0A158QAD5 |  |  |
| Ne\_Eve\_06 | UniProt | A0A0N4V9Q0 |  |  |
| Ne\_Eve\_07 | UniProt | A0A0N4UWF5 | N65 N94 | N255 |
| Ne\_Eve\_08 | UniProt | A0A0N4VKQ4 |  |  |
| Ne\_Eve\_09 | UniProt | A0A0N4VBS4 |  |  |
| Ne\_Eve\_10 | UniProt | A0A0N4VAU6 |  | N234 |
| Ne\_Eve\_11 | UniProt | A0A0N4V5J5 |  |  |
| Ne\_Eve\_12 | UniProt | A0A0N4VBS3 |  |  |
| *Syphacia muris* | Ne\_Smu\_01 | UniProt | A0A0N5AKQ1 |  | N272 |
| Ne\_Smu\_02 | UniProt | A0A0N5AIV2 |  | N315 |
| Ne\_Smu\_03 | UniProt | A0A0N5AXY4 |  |  |
| Ne\_Smu\_04 | UniProt | A0A0N5A9L6 | N90 | N258 |
| Ne\_Smu\_05 | UniProt | A0A0N5A9F0 |  |  |
| Ne\_Smu\_06 | UniProt | A0A158R4F1 |  |  |
| Ne\_Smu\_07 | UniProt | A0A0N5AEF8 |  |  |
| Ne\_Smu\_08 | UniProt | A0A0N5ASH8 |  |  |
| Ne\_Smu\_09 | UniProt | A0A0N5B018 |  |  |
| Ne\_Smu\_10 | UniProt | A0A0N5AIU0 |  |  |
| Ne\_Smu\_11 | UniProt | A0A0N5AAY5 | N100 |  |
| Ne\_Smu\_12 | UniProt | A0A0N5AP55 |  |  |
| Ne\_Smu\_13 | UniProt | A0A0N5AYZ5 |  |  |
| Ne\_Smu\_14 | UniProt | A0A0N5AGQ2 |  |  |
| Ne\_Smu\_15 | UniProt | A0A0N5ABY8 |  | N274 |
| Ne\_Smu\_16 | UniProt | A0A0N5AYG4 |  |  |
| *Acanthocheilonema viteae* | Ne\_Avi\_01 | UniProt | A0A498SFZ8 |  | N241 |
| Ne\_Avi\_02 | UniProt | A0A498S8Z7 |  |  |
| Ne\_Avi\_03 | UniProt | A0A498SFZ6 |  | N243 |
| Ne\_Avi\_04 | UniProt | A0A498SB47 |  |  |
| Ne\_Avi\_05 | UniProt | A0A498S9K0 |  |  |
| Ne\_Avi\_06 | UniProt | A0A498S735 |  |  |
| Ne\_Avi\_07 | UniProt | A0A498SID0 |  |  |
| Ne\_Avi\_08 | UniProt | A0A498SFE7 |  |  |
| Ne\_Avi\_09 | UniProt | A0A498SDS8 |  | N188 |
| Ne\_Avi\_10 | UniProt | A0A498SPN9 |  |  |
| *Brugia pahangi* | Ne\_Bpa\_01 | UniProt | A0A158PPX0 |  |  |
| Ne\_Bpa\_02 | UniProt | A0A0N4SZM7 |  |  |
| Ne\_Bpa\_03 | UniProt | A0A158PQ75 |  | N286 |
| Ne\_Bpa\_04 | UniProt | A0A0N4TMZ6 |  |  |
| Ne\_Bpa\_05 | UniProt | A0A0N4TM67 |  |  |
| Ne\_Bpa\_06 | UniProt | A0A0N4TQI0 |  | N241 |
| Ne\_Bpa\_07 | UniProt | A0A3P7QDG4 |  |  |
| Ne\_Bpa\_08 | UniProt | A0A0N4TKT7 |  |  |
| Ne\_Bpa\_09 | UniProt | A0A0N4T2B3 |  |  |
| Ne\_Bpa\_10 | UniProt | A0A0N4SWM3 | N82 |  |
| Ne\_Bpa\_11 | UniProt | A0A0N4T3A6 | N87 |  |
| Ne\_Bpa\_12 | UniProt | A0A0N4TRN4 |  |  |
| Ne\_Bpa\_13 | UniProt | A0A0N4TPE5 |  |  |
| Ne\_Bpa\_14 | UniProt | A0A0N4TVC5 |  | N223 |
| *Elaeophora elaphi* | Ne\_Eel\_01 | UniProt | A0A0R3S611 |  |  |
| Ne\_Eel\_02 | UniProt | A0A0R3RFQ0 |  |  |
| Ne\_Eel\_03 | UniProt | A0A158Q7E7 |  | N239 |
| Ne\_Eel\_04 | UniProt | A0A0R3RI94 |  |  |
| Ne\_Eel\_05 | UniProt | A0A0R3RVD0 |  |  |
| Ne\_Eel\_06 | UniProt | A0A0R3RTU9 |  |  |
| Ne\_Eel\_07 | UniProt | A0A0R3RZF8 |  |  |
| Ne\_Eel\_08 | UniProt | A0A0R3S431 |  | N306 |
| Ne\_Eel\_09 | UniProt | A0A0R3S5N7 | N100 |  |
| Ne\_Eel\_10 | UniProt | A0A0R3RK80 |  |  |
| Ne\_Eel\_11 | UniProt | A0A0R3RI02 |  |  |
| Ne\_Eel\_12 | UniProt | A0A0R3RK83 | N85 |  |
| Ne\_Eel\_13 | UniProt | A0A0R3S3P1 |  | N221 |
| Ne\_Eel\_14 | UniProt | A0A0R3S688 |  |  |
| *Litomosoides sigmodontis* | Ne\_Lsi\_01 | UniProt | A0A3P6UKJ6 |  |  |
| Ne\_Lsi\_02 | UniProt | A0A3P6TA91 |  |  |
| Ne\_Lsi\_03 | UniProt | A0A3P6S074 |  | N239 |
| Ne\_Lsi\_04 | UniProt | A0A3P6THZ3 |  | N241 |
| Ne\_Lsi\_05 | UniProt | A0A3P6TBR4 |  |  |
| Ne\_Lsi\_06 | UniProt | A0A3P6TG21 | N137 |  |
| Ne\_Lsi\_07 | UniProt | A0A3P6SKB9 | N82 |  |
| Ne\_Lsi\_08 | UniProt | A0A3P6USD0 |  |  |
| Ne\_Lsi\_09 | UniProt | A0A3P6TNF5 |  |  |
| Ne\_Lsi\_10 | UniProt | A0A3P6U341 |  |  |
| Ne\_Lsi\_11 | UniProt | A0A3P6T8R0 |  |  |
| Ne\_Lsi\_12 | UniProt | A0A3P6SBR3 |  |  |
| Ne\_Lsi\_13 | UniProt | A0A3P6V9Y8 |  |  |
| *Loa loa* | Ne\_Llo\_01 | UniProt | A0A1S0TZW5 |  |  |
| Ne\_Llo\_02 | UniProt | A0A1S0U9U2 |  | N239 |
| Ne\_Llo\_03 | UniProt | A0A1I7VXQ4 |  |  |
| Ne\_Llo\_04 | UniProt | A0A1S0UB65 |  |  |
| Ne\_Llo\_05 | UniProt | A0A1S0UFK4 |  | N241 |
| Ne\_Llo\_06 | UniProt | A0A1I7VZJ3 |  | N240 |
| Ne\_Llo\_07 | UniProt | A0A1S0U3A9 |  |  |
| Ne\_Llo\_08 | UniProt | A0A1I7W157 |  |  |
| Ne\_Llo\_09 | UniProt | A0A1S0TM78 |  |  |
| Ne\_Llo\_10 | UniProt | A0A1I7VEN4 |  |  |
| Ne\_Llo\_11 | UniProt | A0A1I7VKW5 |  |  |
| Ne\_Llo\_12 | UniProt | A0A1S0TRP3 |  |  |
| Ne\_Llo\_13 | UniProt | A0A1I7VGB5 |  |  |
| Ne\_Llo\_14 | UniProt | A0A1I7VHP3 |  |  |
| Ne\_Llo\_15 | UniProt | A0A1I7V589 |  | N221 |
| Ne\_Llo\_16 | UniProt | A0A1S0TZ71 | N85 N97 |  |
| Ne\_Llo\_17 | UniProt | A0A1S0UFG2 |  |  |
| Ne\_Llo\_18 | UniProt | A0A1S0TVV2 | N82 |  |
| Ne\_Llo\_19 | UniProt | A0A1S0U6I5 |  | N179 |
| *Onchocerca flexuosa* | Ne\_Ofl\_01 | UniProt | A0A238BZB1 |  | N243 |
| Ne\_Ofl\_02 | UniProt | A0A183H2Q8 |  |  |
| Ne\_Ofl\_03 | UniProt | A0A238BZW8 |  |  |
| Ne\_Ofl\_04 | UniProt | A0A183H6N1 |  |  |
| Ne\_Ofl\_05 | UniProt | A0A238BV49 |  |  |
| Ne\_Ofl\_06 | UniProt | A0A238BZU9 |  |  |
| Ne\_Ofl\_07 | UniProt | A0A183I013 |  |  |
| Ne\_Ofl\_08 | UniProt | A0A183I3U9 |  |  |
| Ne\_Ofl\_09 | UniProt | A0A238BT96 |  | N239 |
| Ne\_Ofl\_10 | UniProt | A0A238C5U0 |  |  |
| Ne\_Ofl\_11 | UniProt | A0A183H3Q4 |  |  |
| Ne\_Ofl\_12 | UniProt | A0A183HYN5 |  |  |
| Ne\_Ofl\_13 | UniProt | A0A183I1C0 |  | N239 |
| Ne\_Ofl\_14 | UniProt | A0A238BQ43 |  | N241 |
| *Wuchereria bancrofti* | Ne\_Wba\_01 | UniProt | A0A1I8EQL9 | N100 |  |
| Ne\_Wba\_02 | UniProt | J9FAW5 |  |  |
| Ne\_Wba\_03 | UniProt | J9EMK4 |  | N294 |
| Ne\_Wba\_04 | UniProt | A0A1I8EM42 |  | N243 |
| Ne\_Wba\_05 | UniProt | J9F0N4 |  |  |
| Ne\_Wba\_06 | UniProt | J9BJK4 |  |  |
| Ne\_Wba\_07 | UniProt | J9FFN8 |  | N272 |
| Ne\_Wba\_08 | UniProt | J9BFB6 |  |  |
| Ne\_Wba\_09 | UniProt | J9B6M7 |  |  |
| Ne\_Wba\_10 | UniProt | J9EZB8 | N82 |  |
| Ne\_Wba\_11 | UniProt | J9EPQ3 |  |  |
| Ne\_Wba\_12 | UniProt | A0A1I8EBF1 | N87 |  |
| Ne\_Wba\_13 | UniProt | J9EKZ3 |  |  |
| Ne\_Wba\_14 | UniProt | A0A3P7E2W3 |  | N241 |
| *Steinernema carpocapsae* | Ne\_Sca\_01 | UniProt | A0A4U5LXJ6 |  |  |
| Ne\_Sca\_02 | UniProt | A0A4U8UTT7 |  |  |
| Ne\_Sca\_03 | UniProt | A0A4U5MSH5 |  |  |
| Ne\_Sca\_04 | UniProt | A0A4U5NZ08 |  | N231 |
| Ne\_Sca\_05 | UniProt | A0A4U5PC08 |  |  |
| Ne\_Sca\_06 | UniProt | A0A4U8UUS7 |  |  |
| Ne\_Sca\_07 | UniProt | A0A4V6A677 |  |  |
| Ne\_Sca\_08 | UniProt | A0A4U8V1A0 |  |  |
| Ne\_Sca\_09 | UniProt | A0A4V6A669 |  |  |
| Ne\_Sca\_10 | UniProt | A0A4U5PCC0 | N100 | N214 |
| Ne\_Sca\_11 | UniProt | A0A4U5PBK2 |  |  |
| Ne\_Sca\_12 | UniProt | A0A4U5NE73 | N81 |  |
| Ne\_Sca\_13 | UniProt | A0A4U8UXQ0 |  | N223 |
| Ne\_Sca\_14 | UniProt | A0A4U5PBJ6 |  |  |
| Ne\_Sca\_15 | UniProt | A0A4U5LTW5 |  |  |
| Ne\_Sca\_16 | UniProt | A0A4U5PCH9 | N79 |  |
| *Strongyloides papillosus* | Ne\_Spa\_01 | UniProt | A0A0N5C4A6 | N79 | N254 |
| Ne\_Spa\_02 | UniProt | A0A0N5CI52 |  |  |
| Ne\_Spa\_03 | UniProt | A0A0N5C763 |  |  |
| Ne\_Spa\_04 | UniProt | A0A0N5BCL3 |  |  |
| Ne\_Spa\_05 | UniProt | A0A0N5B2H8 |  |  |
| Ne\_Spa\_06 | UniProt | A0A0N5CF27 |  |  |
| Ne\_Spa\_07 | UniProt | A0A0N5BUD7 |  | N241 |
| Ne\_Spa\_08 | UniProt | A0A0N5C8P0 |  |  |
| Ne\_Spa\_09 | UniProt | A0A0N5C764 |  |  |
| Ne\_Spa\_10 | UniProt | A0A0N5BUL9 |  | N272 |
| Ne\_Spa\_11 | UniProt | A0A0N5BPE4 |  |  |
| Ne\_Spa\_12 | UniProt | A0A0N5BKZ3 |  |  |
| Ne\_Spa\_13 | UniProt | A0A0N5BLB2 |  | N223 |
| Ne\_Spa\_14 | UniProt | A0A0N5C1V1 |  |  |
| Ne\_Spa\_15 | UniProt | A0A0N5C8M4 | N100 |  |
| Ne\_Spa\_16 | UniProt | A0A0N5BI31 |  |  |
| Ne\_Spa\_17 | UniProt | A0A0N5BYP9 |  |  |
| Ne\_Spa\_18 | UniProt | A0A0N5C8M3 |  |  |
| Ne\_Spa\_19 | UniProt | A0A0N5BLJ6 |  |  |
| Ne\_Spa\_20 | UniProt | A0A0N5BI66 |  |  |
| Ne\_Spa\_21 | UniProt | A0A0N5B7R2 |  |  |
| Ne\_Spa\_22 | UniProt | A0A0N5BUM4 |  |  |
| Ne\_Spa\_23 | UniProt | A0A0N5B239 |  |  |
| Ne\_Spa\_24 | UniProt | A0A0N5B7R1 | N84 |  |
| *Parastrongyloides trichosuri* | Ne\_Ptr\_01 | UniProt | A0A0N4ZZ03 |  |  |
| Ne\_Ptr\_02 | UniProt | A0A0N5A0D4 |  |  |
| Ne\_Ptr\_03 | UniProt | A0A0N4Z4Q8 |  |  |
| Ne\_Ptr\_04 | UniProt | A0A0N4ZP26 |  |  |
| Ne\_Ptr\_05 | UniProt | A0A0N4ZJ42 |  |  |
| Ne\_Ptr\_06 | UniProt | A0A0N4ZBU3 |  | N241 |
| Ne\_Ptr\_07 | UniProt | A0A0N4Z2L1 |  |  |
| Ne\_Ptr\_08 | UniProt | A0A0N4ZIL6 |  |  |
| Ne\_Ptr\_09 | UniProt | A0A0N5A1F7 | N82 |  |
| Ne\_Ptr\_10 | UniProt | A0A0N5A409 |  |  |
| Ne\_Ptr\_11 | UniProt | A0A0N4Z539 | N84 | N220 |
| Ne\_Ptr\_12 | UniProt | A0A0N4Z7Y1 |  |  |
| Ne\_Ptr\_13 | UniProt | A0A0N4ZBL2 | N79 | N254 |
| Ne\_Ptr\_14 | UniProt | A0A0N4Z1N1 |  |  |
| Ne\_Ptr\_15 | UniProt | A0A0N4ZD13 |  |  |
| Ne\_Ptr\_16 | UniProt | A0A0N4Z1N2 |  |  |
| Ne\_Ptr\_17 | UniProt | A0A0N4Z3M2 |  |  |
| Ne\_Ptr\_18 | UniProt | A0A0N4ZN91 |  |  |
| Ne\_Ptr\_19 | UniProt | A0A0N4ZW95 |  | N223 |
| Ne\_Ptr\_20 | UniProt | A0A0N4ZRI2 |  |  |
| Ne\_Ptr\_21 | UniProt | A0A0N4Z808 |  |  |
| Ne\_Ptr\_22 | UniProt | A0A0N4ZN90 | N84 |  |
| *Bursaphelenchus xylophilus* | Ne\_Bxy\_01 | UniProt | A0A1I7RZC3 |  |  |
| Ne\_Bxy\_02 | UniProt | A0A1I7SDL3 |  |  |
| Ne\_Bxy\_03 | UniProt | A0A1I7SMR4 |  |  |
| Ne\_Bxy\_04 | UniProt | A0A1I7S579 |  |  |
| Ne\_Bxy\_05 | UniProt | A0A1I7SQ23 | N85 | N244 |
| Ne\_Bxy\_06 | UniProt | A0A1I7SAC7 |  |  |
| Ne\_Bxy\_07 | UniProt | A0A1I7RJF8 |  |  |
| Ne\_Bxy\_08 | UniProt | A0A1I7RRV2 |  |  |
| Ne\_Bxy\_09 | UniProt | A0A1I7SAD4 |  |  |
| Ne\_Bxy\_10 | UniProt | A0A1I7RSM2 | N84 |  |
| Ne\_Bxy\_11 | UniProt | A0A1I7S7M6 |  |  |
| Ne\_Bxy\_12 | UniProt | A0A1I7RVC3 |  |  |
| Ne\_Bxy\_13 | UniProt | A0A1I7SC16 |  |  |
| Ne\_Bxy\_14 | UniProt | A0A1I7SC15 | N100 |  |
| Ne\_Bxy\_15 | UniProt | A0A1I7RL21 |  |  |
| Ne\_Bxy\_16 | UniProt | A0A1I7STL0 |  |  |
| Ne\_Bxy\_17 | UniProt | A0A1I7RUM8 |  |  |
| Ne\_Bxy\_18 | UniProt | A0A1I7RL20 | N79 |  |
| *Globodera pallida* | Ne\_Gpa\_01 | UniProt | A0A183CEU7 | N121 |  |
| Ne\_Gpa\_02 | UniProt | A0A183C9A7 |  |  |
| Ne\_Gpa\_03 | UniProt | A0A183BIG6 |  |  |
| Ne\_Gpa\_04 | UniProt | A0A183C5V3 |  | N239 |
| Ne\_Gpa\_05 | UniProt | A0A183BYW5 |  |  |
| Ne\_Gpa\_06 | UniProt | A0A183CEJ6 |  |  |
| Ne\_Gpa\_07 | UniProt | A0A183CFT7 |  | N235 |
| Ne\_Gpa\_08 | UniProt | A0A183C0A2 |  |  |
| Ne\_Gpa\_09 | UniProt | A0A183CGN3 |  |  |
| Ne\_Gpa\_10 | UniProt | A0A183CAY5 |  |  |
| *Meloidogyne hapla* | Ne\_Mha\_01 | UniProt | A0A1I8BJJ9 |  |  |
| Ne\_Mha\_02 | UniProt | A0A1I8B043 | N79 | N231 |
| Ne\_Mha\_03 | UniProt | A0A1I8BZY8 | N90 | N243 N271 |
| Ne\_Mha\_04 | UniProt | A0A1I8BWR9 |  |  |
| Ne\_Mha\_05 | UniProt | A0A1I8BGA6 |  |  |
| Ne\_Mha\_06 | UniProt | A0A1I8B6I3 |  |  |
| Ne\_Mha\_07 | UniProt | A0A1I8BTR7 |  |  |
| Ne\_Mha\_08 | UniProt | A0A1I8BV77 |  | N216 |
| *Necator americanus* | Ne\_Nam\_01 | UniProt | W2SJ69 |  |  |
| Ne\_Nam\_02 | UniProt | W2STZ3 |  | N358 |
| Ne\_Nam\_03 | UniProt | W2TIP6 |  |  |
| Ne\_Nam\_04 | UniProt | W2TYF2 |  | N235 |
| Ne\_Nam\_05 | UniProt | W2TEZ4 |  |  |
| Ne\_Nam\_06 | UniProt | W2T5J4 |  |  |
| Ne\_Nam\_07 | UniProt | W2SYE4 | N81 | N244 |
| Ne\_Nam\_08 | UniProt | W2T609 |  | N221 |
| Ne\_Nam\_09 | UniProt | W2SHV1 |  | N218 N237 |
| Ne\_Nam\_10 | UniProt | W2SR35 |  |  |
| *Ancylostoma caninum* | Ne\_Aca\_01 | UniProt | A0A368FCL1 |  | N247 |
| Ne\_Aca\_02 | UniProt | A0A368H1X0 |  | N239 |
| Ne\_Aca\_03 | UniProt | A0A368GMG3 | N212 |  |
| Ne\_Aca\_04 | UniProt | A0A368G5Z5 | N196 |  |
| Ne\_Aca\_05 | UniProt | A0A368GSS3 | N103 |  |
| Ne\_Aca\_06 | UniProt | A0A368GUK4 | N87 |  |
| *Dictyocaulus viviparus* | Ne\_Dvi\_01 | UniProt | A0A0D8YBA5 |  | N247 |
| Ne\_Dvi\_02 | UniProt | A0A0D8XP27 |  |  |
| Ne\_Dvi\_03 | UniProt | A0A0D8XE47 |  |  |
| Ne\_Dvi\_04 | UniProt | A0A0D8XV81 | N104 |  |
| Ne\_Dvi\_05 | UniProt | A0A0D8Y3K3 | N100 |  |
| Ne\_Dvi\_06 | UniProt | A0A0D8XVG6 |  | N203 |
| Ne\_Dvi\_07 | UniProt | A0A0D8Y4Z3 |  |  |
| *Heligmosomoides polygyrus* | Ne\_Hpo\_01 | UniProt | A0A3P8A072 |  |  |
| Ne\_Hpo\_02 | UniProt | A0A3P8DR73 |  |  |
| Ne\_Hpo\_03 | UniProt | A0A3P7WSS5 |  |  |
| Ne\_Hpo\_04 | UniProt | A0A183GE98 | N92 | N276 |
| Ne\_Hpo\_05 | UniProt | A0A3P8AIG2 |  |  |
| Ne\_Hpo\_06 | UniProt | A0A183GL76 |  | N239 |
| Ne\_Hpo\_07 | UniProt | A0A3P7WVQ0 |  |  |
| Ne\_Hpo\_08 | UniProt | A0A3P8BWC6 |  |  |
| Ne\_Hpo\_09 | UniProt | A0A3P7ZGT5 |  |  |
| Ne\_Hpo\_10 | UniProt | A0A183F297 |  |  |
| Ne\_Hpo\_11 | UniProt | A0A183F296 | N81 | N244 |
| *Nippostrongylus brasiliensis* | Ne\_Nbr\_01 | UniProt | A0A0N4YGT7 |  | N382 |
| Ne\_Nbr\_02 | UniProt | A0A158QWP9 |  | N362 |
| Ne\_Nbr\_03 | UniProt | A0A0N4Y450 | N328 |  |
| Ne\_Nbr\_04 | UniProt | A0A0N4XDC6 |  |  |
| Ne\_Nbr\_05 | UniProt | A0A158R1W4 |  | N239 |
| Ne\_Nbr\_06 | UniProt | A0A0N4YFM3 |  |  |
| Ne\_Nbr\_07 | UniProt | A0A0N4YJE4 |  |  |
| Ne\_Nbr\_08 | UniProt | A0A158QX74 |  |  |
| Ne\_Nbr\_09 | UniProt | A0A0N4XW85 |  | N218 N237 |
| Ne\_Nbr\_10 | UniProt | A0A158QZI4 |  |  |
| Ne\_Nbr\_11 | UniProt | A0A0N4YE60 |  |  |
| Ne\_Nbr\_12 | UniProt | A0A0N4Y9J0 |  |  |
| Ne\_Nbr\_13 | UniProt | A0A0N4Y451 | N80 N100 |  |
| *Haemonchus contortus* | Ne\_Hco\_01 | UniProt | A0A6F7PZM9 |  |  |
| Ne\_Hco\_02 | UniProt | A0A6F7Q1K4 |  |  |
| Ne\_Hco\_03 | UniProt | A0A6F7NY06 |  | N249 N253 |
| Ne\_Hco\_04 | UniProt | A0A6F7PJG6 |  | N239 |
| Ne\_Hco\_05 | UniProt | A0A6F7PER5 |  | N227 N243 |
| Ne\_Hco\_06 | UniProt | A0A6F7Q073 |  |  |
| Ne\_Hco\_07 | UniProt | A0A6F7Q2W8 |  |  |
| Ne\_Hco\_08 | UniProt | A0A6F7QAF2 |  |  |
| Ne\_Hco\_09 | UniProt | A0A6F7PUI7 |  |  |
| Ne\_Hco\_10 | UniProt | A0A6F7PQM7 |  |  |
| Ne\_Hco\_11 | UniProt | A0A6F7NU31 |  |  |
| Ne\_Hco\_12 | UniProt | A0A6F7NSS0 |  |  |
| Ne\_Hco\_13 | UniProt | W6NP90 |  | N218 |
| Ne\_Hco\_14 | UniProt | A0A6F7Q1Q6 | N87 N93 |  |
| Ne\_Hco\_15 | UniProt | A0A6F7NV33 | N81 | N244 |
| Ne\_Hco\_16 | UniProt | W6NID6 |  | N221 |
| Ne\_Hco\_17 | UniProt | A0A6F7NTH9 |  |  |
| Ne\_Hco\_18 | UniProt | A0A6F7NVM9 | N83 |  |

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| --- | --- | --- | --- | --- | --- | --- |
| **Arthropods** | *Thrips palmi* | Ar\_Tpa\_01 | UniProt | A0A6P8ZST9 |  |  |
|  |  | Ar\_Tpa\_02 | UniProt | A0A6P8Y409 | N72 |  |
|  |  | Ar\_Tpa\_03 | UniProt | A0A6P8ZV57 |  |  |
|  |  | Ar\_Tpa\_04 | UniProt | A0A6P8YWU1 |  |  |
|  |  | Ar\_Tpa\_05 | UniProt | A0A6P8ZRZ8 |  |  |
|  |  | Ar\_Tpa\_06 | UniProt | A0A6P8ZNF7 |  |  |
|  |  | Ar\_Tpa\_07 | UniProt | A0A6P8YYE9 |  |  |
|  |  | Ar\_Tpa\_08 | UniProt | A0A6P8YKL5 |  | N231 |
|  | *Frankliniella occidentalis* | Ar\_Foc\_01 | UniProt | A0A6J1RZG7 |  |  |
|  |  | Ar\_Foc\_02 | UniProt | A0A6J1SMB9 |  |  |
|  |  | Ar\_Foc\_03 | UniProt | A0A6J1RTZ6 |  |  |
|  |  | Ar\_Foc\_04 | UniProt | A0A6J1SWZ3 |  |  |
|  |  | Ar\_Foc\_05 | UniProt | A0A6J1S6S1 | N84 |  |
|  |  | Ar\_Foc\_06 | UniProt | A0A6J1TGB1 |  | N231 |
|  |  | Ar\_Foc\_07 | UniProt | A0A6J1T3I0 |  |  |
|  | *Aphis craccivora* | Ar\_Acr\_01 | UniProt | A0A6G0YTT0 |  |  |
|  |  | Ar\_Acr\_02 | UniProt | A0A6G0ZQU5 |  |  |
|  |  | Ar\_Acr\_03 | UniProt | A0A6G0ZD86 | N83 |  |
|  |  | Ar\_Acr\_04 | UniProt | A0A6G0YAS6 |  |  |
|  |  | Ar\_Acr\_05 | UniProt | A0A6G0YY97 |  |  |
|  |  | Ar\_Acr\_06 | UniProt | A0A6G0YHN0 |  |  |
|  | *Aphis glycines* | Ar\_Agl\_01 | UniProt | A0A6G0TLB4 |  |  |
|  |  | Ar\_Agl\_02 | UniProt | A0A6G0STC3 |  |  |
|  |  | Ar\_Agl\_03 | UniProt | A0A6G0TLR6 | N83 |  |
|  |  | Ar\_Agl\_04 | UniProt | A0A6G0TKN3 |  |  |
|  |  | Ar\_Agl\_05 | UniProt | A0A6G0TL03 |  |  |
|  |  | Ar\_Agl\_06 | UniProt | A0A6G0TZF1 |  |  |
|  | *Daphnia magna* | Ar\_Dma\_01 | UniProt | A0A164NX56 |  |  |
|  |  | Ar\_Dma\_02 | UniProt | A0A0P5IX97 |  |  |
|  |  | Ar\_Dma\_03 | UniProt | A0A0P5ZCT8 |  |  |
|  |  | Ar\_Dma\_04 | UniProt | A0A164TF69 |  |  |
|  |  | Ar\_Dma\_05 | UniProt | A0A0N8DXA0 |  |  |
|  |  | Ar\_Dma\_06 | UniProt | A0A162SUC4 |  |  |
|  | *Daphnia pulex* | Ar\_Dpu\_01 | UniProt | E9HBX3 |  |  |
|  |  | Ar\_Dpu\_02 | UniProt | E9HSG1 |  |  |
|  |  | Ar\_Dpu\_03 | UniProt | E9GU09 |  |  |
|  |  | Ar\_Dpu\_04 | UniProt | E9HJ62 |  |  |
|  |  | Ar\_Dpu\_05 | UniProt | E9HJ63 | N89 |  |
|  |  | Ar\_Dpu\_06 | UniProt | E9G961 |  |  |
|  |  | Ar\_Dpu\_07 | UniProt | E9HSG2 |  |  |
|  |  | Ar\_Dpu\_08 | UniProt | E9HSG3 |  |  |
|  | *Scylla olivacea* | Ar\_Sol\_01 | UniProt | A0A0P4W675 |  | N217 |
|  |  | Ar\_Sol\_02 | UniProt | A0A0N7ZD50 |  |  |
|  |  | Ar\_Sol\_03 | UniProt | A0A0N7ZCP1 |  | N238 N241 |
|  |  | Ar\_Sol\_04 | UniProt | A0A0P4WHJ5 | N81 |  |
|  |  | Ar\_Sol\_05 | UniProt | A0A0P4W3U5 |  |  |
|  |  | Ar\_Sol\_06 | UniProt | A0A0P4WEZ5 |  | N226 |
|  | *Hirondellea gigas* | Ar\_Hgi\_01 | UniProt | A0A2P2I2N3 | N81 |  |
|  |  | Ar\_Hgi\_02 | UniProt | A0A6A7FNV7 |  |  |
|  |  | Ar\_Hgi\_03 | UniProt | A0A2P2I2I6 |  | N238 N241 |
|  |  | Ar\_Hgi\_04 | UniProt | A0A2P2HZN5 |  | N234 |
|  |  | Ar\_Hgi\_05 | UniProt | A0A2P2I1N6 |  | N218 N223 |
|  |  | Ar\_Hgi\_06 | UniProt | A0A6A7FV51 |  |  |
|  |  | Ar\_Hgi\_07 | UniProt | A0A2P2HW92 |  |  |
|  |  | Ar\_Hgi\_08 | UniProt | A0A2P2I4A3 |  |  |
|  | *Hyalella azteca* | Ar\_Haz\_01 | UniProt | A0A6A0GP53 | N98 |  |
|  |  | Ar\_Haz\_02 | UniProt | A0A6A0HAM8 | N81 |  |
|  |  | Ar\_Haz\_03 | UniProt | A0A6A0H8A9 | N80 |  |
|  |  | Ar\_Haz\_04 | UniProt | A0A6A0H700 |  |  |
|  | *Amphibalanus amphitrite* | Ar\_Aam\_01 | UniProt | A0A6A4VFK7 |  |  |
|  |  | Ar\_Aam\_02 | UniProt | A0A6A4VDH1 |  |  |
|  |  | Ar\_Aam\_03 | UniProt | A0A6A4W3Q3 |  |  |
|  |  | Ar\_Aam\_04 | UniProt | A0A6A4V6H0 |  | N241 |
|  |  | Ar\_Aam\_05 | UniProt | A0A6A4W2M3 |  |  |
|  |  | Ar\_Aam\_06 | UniProt | A0A6A4WXZ9 |  |  |
|  |  | Ar\_Aam\_07 | UniProt | A0A6A4W9V3 |  |  |
|  |  | Ar\_Aam\_08 | UniProt | A0A6A4W7T0 |  |  |
|  |  | Ar\_Aam\_09 | UniProt | A0A6A4V6G5 |  |  |
|  |  | Ar\_Aam\_10 | UniProt | A0A6A4WSI7 |  |  |
|  |  | Ar\_Aam\_11 | UniProt | A0A6A4WKW5 |  |  |
|  |  | Ar\_Aam\_12 | UniProt | A0A6A4VJ12 |  | N221 |
|  |  | Ar\_Aam\_13 | UniProt | A0A6A4WPK5 |  |  |
|  |  | Ar\_Aam\_14 | UniProt | A0A6A4V3T3 |  |  |
|  | *Tigriopus californicus* | Ar\_Tca\_01 | UniProt | A0A553P1G4 | N155 |  |
|  |  | Ar\_Tca\_02 | UniProt | A0A553PJ75 |  |  |
|  |  | Ar\_Tca\_03 | UniProt | A0A553NFW3 |  |  |
|  |  | Ar\_Tca\_04 | UniProt | A0A553NEC0 |  |  |
|  |  | Ar\_Tca\_05 | UniProt | A0A553P1J4 |  |  |
|  |  | Ar\_Tca\_06 | UniProt | A0A553PKP1 |  |  |
|  |  | Ar\_Tca\_07 | UniProt | A0A553N8N9 |  |  |
|  |  | Ar\_Tca\_08 | UniProt | A0A553P1W9 | N55 |  |
|  |  | Ar\_Tca\_09 | UniProt | A0A553PI24 |  |  |
|  |  | Ar\_Tca\_10 | UniProt | A0A553PS08 |  |  |
|  |  | Ar\_Tca\_11 | UniProt | A0A553PHV3 |  |  |
|  |  | Ar\_Tca\_12 | UniProt | A0A553NNA8 |  |  |
|  |  | Ar\_Tca\_13 | UniProt | A0A553P4E6 |  |  |
|  |  | Ar\_Tca\_14 | UniProt | A0A553PBP0 |  |  |
|  |  | Ar\_Tca\_15 | UniProt | A0A553NE09 | N104 |  |
|  |  | Ar\_Tca\_16 | UniProt | A0A553PKN4 |  |  |
|  |  | Ar\_Tca\_17 | UniProt | A0A553NFB7 |  |  |
|  |  | Ar\_Tca\_18 | UniProt | A0A553PDK2 |  | N246 |
|  |  | Ar\_Tca\_19 | UniProt | A0A553ND69 |  |  |
|  |  | Ar\_Tca\_20 | UniProt | A0A553PND8 |  |  |
|  | *Lepeophtheirus salmonis* | Ar\_Lsa\_01 | UniProt | A0A0K2TDD4 |  |  |
|  |  | Ar\_Lsa\_02 | UniProt | C1BTQ5 |  |  |
|  |  | Ar\_Lsa\_03 | UniProt | A0A0K2TMS5 |  |  |
|  |  | Ar\_Lsa\_04 | UniProt | A0A0K2UKB6 |  |  |
|  |  | Ar\_Lsa\_05 | UniProt | A0A0K2UW40 | N108 |  |
|  |  | Ar\_Lsa\_06 | UniProt | A0A0K2TDL8 |  |  |
|  |  | Ar\_Lsa\_07 | UniProt | A0A0K2T369 | N51 |  |
|  |  | Ar\_Lsa\_08 | UniProt | A0A0K2T7F6 |  |  |
|  |  | Ar\_Lsa\_09 | UniProt | A0A0K2T159 |  |  |
|  |  | Ar\_Lsa\_10 | UniProt | A0A0K2TEQ0 |  |  |
|  |  | Ar\_Lsa\_11 | UniProt | A0A0K2V323 |  |  |
|  |  | Ar\_Lsa\_12 | UniProt | C1BSL1 |  |  |
|  |  | Ar\_Lsa\_13 | UniProt | A0A0K2T1S2 | N93 |  |
|  |  | Ar\_Lsa\_14 | UniProt | A0A0K2U872 |  |  |
|  |  | Ar\_Lsa\_15 | UniProt | A0A0K2UID2 | N89 |  |
|  | *Folsomia candida* | Ar\_Fca\_01 | UniProt | A0A226EIH3 | N450 |  |
|  |  | Ar\_Fca\_02 | UniProt | A0A226EIV6 | N103 |  |
|  |  | Ar\_Fca\_03 | UniProt | A0A226E9K9 |  |  |
|  |  | Ar\_Fca\_04 | UniProt | A0A226F5T4 |  |  |
|  |  | Ar\_Fca\_05 | UniProt | A0A226ETR7 |  |  |
|  |  | Ar\_Fca\_06 | UniProt | A0A226EJF9 |  |  |
|  |  | Ar\_Fca\_07 | UniProt | A0A226EHY9 |  |  |
|  |  | Ar\_Fca\_08 | UniProt | A0A226EFJ3 |  |  |
|  |  | Ar\_Fca\_09 | UniProt | A0A226EUL8 |  | N224 |
|  |  | Ar\_Fca\_10 | UniProt | A0A226F5Z2 |  |  |
|  |  | Ar\_Fca\_11 | UniProt | A0A226EJ08 |  |  |
|  |  | Ar\_Fca\_12 | UniProt | A0A226EJI1 |  |  |
|  |  | Ar\_Fca\_13 | UniProt | A0A226EKK7 |  |  |
|  |  | Ar\_Fca\_14 | UniProt | A0A226F6A4 | N87 |  |
|  |  | Ar\_Fca\_15 | UniProt | A0A226EQW4 | N90 |  |
|  | *Orchesella cincta* | Ar\_Oci\_01 | UniProt | A0A1D2NG12 |  |  |
|  |  | Ar\_Oci\_02 | UniProt | A0A1D2M8E3 |  |  |
|  |  | Ar\_Oci\_03 | UniProt | A0A1D2NJ51 |  |  |
|  |  | Ar\_Oci\_04 | UniProt | A0A1D2NFJ6 |  |  |
|  |  | Ar\_Oci\_05 | UniProt | A0A1D2MAJ1 |  | N258 |
|  |  | Ar\_Oci\_06 | UniProt | A0A1D2NGE6 | N78 |  |
|  |  | Ar\_Oci\_07 | UniProt | A0A1D2MTY0 |  |  |
|  |  | Ar\_Oci\_08 | UniProt | A0A1D2MD91 |  |  |
|  |  | Ar\_Oci\_09 | UniProt | A0A1D2M5X8 |  | N240 |
|  |  | Ar\_Oci\_10 | UniProt | A0A1D2N4L7 |  |  |
|  |  | Ar\_Oci\_11 | UniProt | A0A1D2M8K9 |  |  |
|  |  | Ar\_Oci\_12 | UniProt | A0A1D2MTK2 |  |  |
|  | *Strigamia maritima* | Ar\_Sma\_01 | UniProt | T1J195 |  |  |
|  |  | Ar\_Sma\_02 | UniProt | T1IHE1 |  | N222 |
|  |  | Ar\_Sma\_03 | UniProt | T1IXN4 |  | N225 |
|  |  | Ar\_Sma\_04 | UniProt | T1J6W8 |  | N222 |
|  |  | Ar\_Sma\_05 | UniProt | T1J585 |  | N220 |
|  | *Blattella germanica* | Ar\_Bge\_01 | UniProt | A0A2P8YQN8 |  |  |
|  |  | Ar\_Bge\_02 | UniProt | A0A2P8YAX5 | N73 |  |
|  |  | Ar\_Bge\_03 | UniProt | A0A2P8YHY4 | N108 | N231 |
|  |  | Ar\_Bge\_04 | UniProt | A0A2P8YHW8 |  | N238 |
|  |  | Ar\_Bge\_05 | UniProt | A0A2P8YE60 |  |  |
|  |  | Ar\_Bge\_06 | UniProt | A0A2P8YZB7 |  |  |
|  |  | Ar\_Bge\_07 | UniProt | A0A2P8XRI0 |  | N196 |
|  | *Cryptotermes secundus* | Ar\_Cse\_01 | UniProt | A0A2J7PH97 |  |  |
|  |  | Ar\_Cse\_02 | UniProt | A0A2J7PSD6 |  | N253 |
|  |  | Ar\_Cse\_03 | UniProt | A0A2J7PSE5 |  | N231 |
|  |  | Ar\_Cse\_04 | UniProt | A0A2J7PHB7 | N84 |  |
|  |  | Ar\_Cse\_05 | UniProt | A0A2J7PH95 | N53 |  |
|  |  | Ar\_Cse\_06 | UniProt | A0A2J7PHC1 |  |  |
|  |  | Ar\_Cse\_07 | UniProt | A0A2J7PHA0 |  |  |
|  | *Pediculus humanus subsp. corporis* | Ar\_Phu\_01 | UniProt | E0VDS4 |  | N232 |
|  |  | Ar\_Phu\_02 | UniProt | E0VNL8 |  |  |
|  |  | Ar\_Phu\_03 | UniProt | E0VLP5 |  |  |
|  |  | Ar\_Phu\_04 | UniProt | E0VDS2 | N86 |  |
|  |  | Ar\_Phu\_05 | UniProt | E0VDS1 |  |  |
|  | *Clastoptera arizonana* | Ar\_Caz\_01 | UniProt | A0A1B6CKW9 |  |  |
|  |  | Ar\_Caz\_02 | UniProt | A0A1B6EBL0 |  |  |
|  |  | Ar\_Caz\_03 | UniProt | A0A1B6BWP0 |  |  |
|  |  | Ar\_Caz\_04 | UniProt | A0A1B6D2L4 |  |  |
|  | *Graphocephala atropunctata* | Ar\_Gat\_01 | UniProt | A0A1B6L2T6 |  |  |
|  |  | Ar\_Gat\_02 | UniProt | A0A1B6MLB6 |  |  |
|  |  | Ar\_Gat\_03 | UniProt | A0A1B6LYM0 |  |  |
|  |  | Ar\_Gat\_04 | UniProt | A0A1B6KPH5 |  | N231 |
|  |  | Ar\_Gat\_05 | UniProt | A0A1B6KNT5 |  |  |
|  | *Cuerna arida* | Ar\_Car\_01 | UniProt | A0A1B6GUF3 |  | N231 |
|  |  | Ar\_Car\_02 | UniProt | A0A1B6GPC7 | N88 |  |
|  |  | Ar\_Car\_03 | UniProt | A0A1B6G3H6 |  |  |
|  |  | Ar\_Car\_04 | UniProt | A0A1B6FA42 |  |  |
|  |  | Ar\_Car\_05 | UniProt | A0A1B6EIJ8 |  |  |
|  |  | Ar\_Car\_06 | UniProt | A0A1B6GUR0 |  |  |
|  |  | Ar\_Car\_07 | UniProt | A0A1B6EWA1 |  |  |
|  |  | Ar\_Car\_08 | UniProt | A0A1B6GPQ2 |  |  |
|  | *Homalodisca liturata* | Ar\_Hli\_01 | UniProt | A0A1B6HU79 |  |  |
|  |  | Ar\_Hli\_02 | UniProt | A0A1B6IFW0 |  |  |
|  |  | Ar\_Hli\_03 | UniProt | A0A1B6IPY0 |  |  |
|  |  | Ar\_Hli\_04 | UniProt | A0A1B6JAV4 |  | N231 |
|  | *Triatoma infestans* | Ar\_Tin\_01 | UniProt | A0A023F3Q9 |  |  |
|  |  | Ar\_Tin\_02 | UniProt | A0A023F5Q4 |  |  |
|  |  | Ar\_Tin\_03 | UniProt | A0A023F482 |  |  |
|  |  | Ar\_Tin\_04 | UniProt | A0A023F430 |  |  |
|  | *Apolygus lucorum* | Ar\_Alu\_01 | UniProt | A0A6A4JQW2 |  |  |
|  |  | Ar\_Alu\_02 | UniProt | A0A6A4JUI1 | N110 |  |
|  |  | Ar\_Alu\_03 | UniProt | A0A6A4K089 |  |  |
|  |  | Ar\_Alu\_04 | UniProt | A0A6A4K500 |  |  |
|  |  | Ar\_Alu\_05 | UniProt | A0A6A4JS69 |  |  |
|  | *Lygus hesperus* | Ar\_Lhe\_01 | UniProt | A0A0A9XL95 | N83 |  |
|  |  | Ar\_Lhe\_02 | UniProt | A0A0A9WAN6 |  |  |
|  |  | Ar\_Lhe\_03 | UniProt | A0A146LXY8 |  |  |
|  |  | Ar\_Lhe\_04 | UniProt | A0A0A9VUC1 |  |  |
|  |  | Ar\_Lhe\_05 | UniProt | A0A146LYX0 |  |  |
|  | *Cinara cedri* | Ar\_Cce\_01 | UniProt | A0A5E4MG28 |  |  |
|  |  | Ar\_Cce\_02 | UniProt | A0A5E4M383 |  | N228 |
|  |  | Ar\_Cce\_03 | UniProt | A0A5E4MFV4 |  |  |
|  |  | Ar\_Cce\_04 | UniProt | A0A5E4MI47 | N61 |  |
|  |  | Ar\_Cce\_05 | UniProt | A0A5E4N043 |  |  |
|  |  | Ar\_Cce\_06 | UniProt | A0A5E4MKN9 |  |  |
|  | *Rhodnius prolixus* | Ar\_Rpr\_01 | UniProt | T1HJJ5 |  |  |
|  |  | Ar\_Rpr\_02 | UniProt | T1HVH6 |  |  |
|  |  | Ar\_Rpr\_03 | UniProt | T1ICT1 |  |  |
|  |  | Ar\_Rpr\_04 | UniProt | T1HXJ9 |  |  |
|  |  | Ar\_Rpr\_05 | UniProt | T1I6M9 |  |  |
|  | *Acyrthosiphon pisum* | Ar\_Api\_01 | UniProt | J9JUV0 |  |  |
|  |  | Ar\_Api\_02 | UniProt | J9JSD1 |  |  |
|  |  | Ar\_Api\_03 | UniProt | J9K934 |  |  |
|  |  | Ar\_Api\_04 | UniProt | J9K6R4 |  |  |
|  |  | Ar\_Api\_05 | UniProt | J9K6I2 |  |  |
|  |  | Ar\_Api\_06 | UniProt | J9JWH0 | N83 |  |
|  | *Melanaphis sacchari* | Ar\_Msa\_01 | UniProt | A0A2H8TIN1 |  |  |
|  |  | Ar\_Msa\_02 | UniProt | A0A2H8TDG7 |  |  |
|  |  | Ar\_Msa\_03 | UniProt | A0A2H8TVN8 |  |  |
|  |  | Ar\_Msa\_04 | UniProt | A0A2H8TSZ7 |  |  |
|  | *Schizaphis graminum* | Ar\_Sgr\_01 | UniProt | A0A2S2PAU7 |  |  |
|  |  | Ar\_Sgr\_02 | UniProt | A0A2S2NYF6 |  |  |
|  |  | Ar\_Sgr\_03 | UniProt | A0A2S2NF27 |  |  |
|  |  | Ar\_Sgr\_04 | UniProt | A0A2S2NNK0 |  |  |
|  |  | Ar\_Sgr\_05 | UniProt | A0A2S2P2Y2 |  |  |
|  | *Homarus americanus* | Ar\_Ham\_01 | UniProt | A0A097KUQ9 | N81 |  |
|  |  | Ar\_Ham\_02 | UniProt | A0A097KUQ6 |  |  |
|  |  | Ar\_Ham\_03 | UniProt | A0A097KUR2 |  |  |
|  |  | Ar\_Ham\_04 | UniProt | A0A097KUP7 |  |  |
|  |  | Ar\_Ham\_05 | UniProt | A0A097KUP5 |  |  |
|  | *Parasteatoda tepidariorum* | Ar\_Pte\_01 | UniProt | A0A2L2YN85 |  |  |
|  |  | Ar\_Pte\_02 | UniProt | A0A2L2YNL8 |  |  |
|  | *Araneus ventricosus* | Ar\_Ave\_01 | UniProt | A0A4Y2BLW1 |  |  |
|  |  | Ar\_Ave\_02 | UniProt | A0A4Y2J013 |  |  |
|  |  | Ar\_Ave\_03 | UniProt | A0A4Y2BJD5 |  |  |
|  |  | Ar\_Ave\_04 | UniProt | A0A4Y2PP27 |  |  |
|  |  | Ar\_Ave\_05 | UniProt | A0A4Y2G161 | N82 |  |
|  |  | Ar\_Ave\_06 | UniProt | A0A4Y2BKB8 |  | N223 |
|  |  | Ar\_Ave\_07 | UniProt | A0A4Y2BLW9 |  | N226 |
|  |  | Ar\_Ave\_08 | UniProt | A0A4Y2MVI3 |  | N228 |
|  |  | Ar\_Ave\_09 | UniProt | A0A4Y2J1R1 |  |  |
|  |  | Ar\_Ave\_10 | UniProt | A0A4Y2RHT3 |  |  |
|  |  | Ar\_Ave\_11 | UniProt | A0A4Y2BKZ5 |  |  |
|  |  | Ar\_Ave\_12 | UniProt | A0A4Y2BJF0 |  |  |
|  |  | Ar\_Ave\_13 | UniProt | A0A4Y2UAN0 |  | N228 |
|  |  | Ar\_Ave\_14 | UniProt | A0A4Y2KIL1 |  |  |
|  |  | Ar\_Ave\_15 | UniProt | A0A4Y2I839 |  |  |
|  |  | Ar\_Ave\_16 | UniProt | A0A4Y2J0N9 | N83 |  |
|  | *Stegodyphus mimosarum* | Ar\_Smi\_01 | UniProt | A0A087UFR3 |  |  |
|  |  | Ar\_Smi\_02 | UniProt | A0A087T834 | N82 |  |
|  |  | Ar\_Smi\_03 | UniProt | A0A087UUC3 |  |  |
|  |  | Ar\_Smi\_04 | UniProt | A0A087TIQ6 |  |  |
|  |  | Ar\_Smi\_05 | UniProt | A0A087UUC5 |  |  |
|  |  | Ar\_Smi\_06 | UniProt | A0A087TK54 |  |  |
|  |  | Ar\_Smi\_07 | UniProt | A0A087U192 |  |  |
|  |  | Ar\_Smi\_08 | UniProt | A0A087USW5 |  |  |
|  |  | Ar\_Smi\_09 | UniProt | A0A087UUC4 |  |  |
|  | *Aceria tosichella* | Ar\_Ato\_01 | UniProt | A0A6G1SAZ5 |  |  |
|  |  | Ar\_Ato\_02 | UniProt | A0A6G1SDC3 | N81 |  |
|  |  | Ar\_Ato\_03 | UniProt | A0A6G1SHX9 | N94 |  |
|  |  | Ar\_Ato\_04 | UniProt | A0A6G1SNI0 | N81 |  |
|  |  | Ar\_Ato\_05 | UniProt | A0A6G1SHY8 | N82 |  |
|  |  | Ar\_Ato\_06 | UniProt | A0A6G1SEZ4 | N81 |  |
|  |  | Ar\_Ato\_07 | UniProt | A0A6G1SG39 |  |  |
|  | *Dinothrombium tinctorium* | Ar\_Dti\_01 | UniProt | A0A3S3P5I6 |  |  |
|  |  | Ar\_Dti\_02 | UniProt | A0A3S4R7M3 |  |  |
|  |  | Ar\_Dti\_03 | UniProt | A0A443RBL2 |  |  |
|  |  | Ar\_Dti\_04 | UniProt | A0A3S3RUJ0 |  |  |
|  |  | Ar\_Dti\_05 | UniProt | A0A3S3NV37 |  |  |
|  |  | Ar\_Dti\_06 | UniProt | A0A3S3RSB1 |  |  |
|  | *Leptotrombidium deliense* | Ar\_Lde\_01 | UniProt | A0A443SF19 | N71 | N230 |
|  |  | Ar\_Lde\_02 | UniProt | A0A443SWB2 | N99 |  |
|  |  | Ar\_Lde\_03 | UniProt | A0A443S6K1 |  |  |
|  |  | Ar\_Lde\_04 | UniProt | A0A443RXP0 |  |  |
|  |  | Ar\_Lde\_05 | UniProt | A0A443S083 |  |  |
|  |  | Ar\_Lde\_06 | UniProt | A0A443SGN1 | N83 |  |
|  |  | Ar\_Lde\_07 | UniProt | A0A443S186 | N83 |  |
|  |  | Ar\_Lde\_08 | UniProt | A0A443S8U8 |  |  |
|  |  | Ar\_Lde\_09 | UniProt | A0A443S445 |  |  |
|  |  | Ar\_Lde\_10 | UniProt | A0A443S2V1 |  |  |
|  |  | Ar\_Lde\_11 | UniProt | A0A443RY06 | N109 |  |
|  | *Tetranychus urticae* | Ar\_Tur\_01 | UniProt | T1KCG2 |  |  |
|  |  | Ar\_Tur\_02 | UniProt | T1KKN2 |  |  |
|  |  | Ar\_Tur\_03 | UniProt | T1KCG3 |  |  |
|  |  | Ar\_Tur\_04 | UniProt | T1K2R1 |  | N276 |
|  |  | Ar\_Tur\_05 | UniProt | T1KEY2 | N118 |  |
|  |  | Ar\_Tur\_06 | UniProt | T1JXB6 |  |  |
|  |  | Ar\_Tur\_07 | UniProt | T1KDH8 |  |  |
|  |  | Ar\_Tur\_08 | UniProt | T1JWY4 |  |  |
|  |  | Ar\_Tur\_09 | UniProt | T1KKV8 |  |  |
|  |  | Ar\_Tur\_10 | UniProt | T1KKV7 |  |  |
|  |  | Ar\_Tur\_11 | UniProt | T1KCG9 |  |  |
|  |  | Ar\_Tur\_12 | UniProt | T1JY39 |  | N226 |
|  |  | Ar\_Tur\_13 | UniProt | T1KQB8 |  |  |
|  |  | Ar\_Tur\_14 | UniProt | T1KQA9 |  |  |
|  |  | Ar\_Tur\_15 | UniProt | T1L390 | N82 |  |
|  |  | Ar\_Tur\_16 | UniProt | T1KQD2 |  |  |
|  |  | Ar\_Tur\_17 | UniProt | T1JVL3 |  |  |
|  | *Dermatophagoides pteronyssinus* | Ar\_Dpt\_01 | UniProt | A0A6P6XS70 |  |  |
|  |  | Ar\_Dpt\_02 | UniProt | A0A6P6XMQ2 |  |  |
|  |  | Ar\_Dpt\_03 | UniProt | A0A6P6XLA4 |  |  |
|  |  | Ar\_Dpt\_04 | UniProt | A0A6P6XLM4 | N87 |  |
|  |  | Ar\_Dpt\_05 | UniProt | A0A6P6YEC3 |  |  |
|  |  | Ar\_Dpt\_06 | UniProt | A0A6P6Y059 |  |  |
|  |  | Ar\_Dpt\_07 | UniProt | A0A6P6XRT7 | N60 |  |
|  |  | Ar\_Dpt\_08 | UniProt | A0A6P6XXH3 |  |  |
|  | *Ornithodoros erraticus* | Ar\_Oer\_01 | UniProt | A0A293M8N1 |  |  |
|  |  | Ar\_Oer\_02 | UniProt | A0A293LNE0 |  |  |
|  |  | Ar\_Oer\_03 | UniProt | A0A293LIM4 |  |  |
|  |  | Ar\_Oer\_04 | UniProt | A0A293LPQ9 | N83 |  |
|  |  | Ar\_Oer\_05 | UniProt | A0A293MMD4 |  | N199 |
|  | *Amblyomma aureolatum* | Ar\_Aau\_01 | UniProt | A0A1E1XAB3 | N83 |  |
|  |  | Ar\_Aau\_02 | UniProt | A0A1E1XA91 |  |  |
|  |  | Ar\_Aau\_03 | UniProt | A0A1E1X6L2 |  |  |
|  |  | Ar\_Aau\_04 | UniProt | A0A1E1X7A1 | N84 |  |
|  |  | Ar\_Aau\_05 | UniProt | A0A1E1XAM5 |  |  |
|  | *Ixodes ricinus* | Ar\_Iri\_01 | UniProt | A0A131XS32 | N83 |  |
|  |  | Ar\_Iri\_02 | UniProt | A0A0K8RDF6 | N84 |  |
|  |  | Ar\_Iri\_03 | UniProt | A0A131XRY4 |  |  |
|  |  | Ar\_Iri\_04 | UniProt | A0A131XS64 |  |  |
|  |  | Ar\_Iri\_05 | UniProt | V5HSI1 |  |  |
|  |  | Ar\_Iri\_06 | UniProt | A0A0K8R574 |  |  |
|  | *Tropilaelaps mercedesae* | Ar\_Tme\_01 | UniProt | A0A1V9X292 |  |  |
|  |  | Ar\_Tme\_02 | UniProt | A0A1V9Y2L1 |  |  |
|  |  | Ar\_Tme\_03 | UniProt | A0A1V9XCM4 |  |  |
|  |  | Ar\_Tme\_04 | UniProt | A0A1V9XWP2 |  |  |
|  |  | Ar\_Tme\_05 | UniProt | A0A1V9XKX1 |  |  |
|  |  | Ar\_Tme\_06 | UniProt | A0A1V9XQS5 |  |  |
|  |  | Ar\_Tme\_07 | UniProt | A0A1V9Y0N1 | N99 | N216 |
|  |  | Ar\_Tme\_08 | UniProt | A0A1V9WYG6 |  |  |
|  |  | Ar\_Tme\_09 | UniProt | A0A1V9XV07 |  |  |
|  | *Rhipicephalus microplus* | Ar\_Rmi\_01 | UniProt | A0A6M2D420 | N83 |  |
|  |  | Ar\_Rmi\_02 | UniProt | A0A6M2CIN8 | N84 |  |
|  |  | Ar\_Rmi\_03 | UniProt | A0A6M2D5Y1 |  |  |
|  |  | Ar\_Rmi\_04 | UniProt | A0A6G4ZXQ2 |  |  |
|  | *Dendroctonus ponderosae* | Ar\_Dpo\_01 | UniProt | N6T152 |  |  |
|  |  | Ar\_Dpo\_02 | UniProt | N6T7Y7 |  |  |
|  |  | Ar\_Dpo\_03 | UniProt | N6U8L4 |  | N228 |
|  |  | Ar\_Dpo\_04 | UniProt | N6U651 |  |  |
|  |  | Ar\_Dpo\_05 | UniProt | J3JTV6 |  | N215 |
|  |  | Ar\_Dpo\_06 | UniProt | N6TJ28 |  |  |
|  |  | Ar\_Dpo\_07 | UniProt | U4U1I5 |  |  |
|  |  | Ar\_Dpo\_08 | UniProt | J3JY90 |  |  |
|  |  | Ar\_Dpo\_09 | UniProt | N6TC47 |  |  |
|  |  | Ar\_Dpo\_10 | UniProt | U4U3L4 |  |  |
|  | *Sitophilus oryzae* | Ar\_Sor\_01 | UniProt | A0A6J2XP14 | N114 |  |
|  |  | Ar\_Sor\_02 | UniProt | A0A6J2XEW7 |  | N228 |
|  |  | Ar\_Sor\_03 | UniProt | A0A6J2X1S7 |  |  |
|  |  | Ar\_Sor\_04 | UniProt | A0A6J2XM62 |  |  |
|  |  | Ar\_Sor\_05 | UniProt | A0A6J2X1Z6 |  |  |
|  | *Asbolus verrucosus* | Ar\_Avr\_01 | UniProt | A0A482W4S4 | N77 |  |
|  |  | Ar\_Avr\_02 | UniProt | A0A482VSR4 |  | N220 N228 |
|  |  | Ar\_Avr\_03 | UniProt | A0A482VC95 |  |  |
|  |  | Ar\_Avr\_04 | UniProt | A0A482VLG2 |  |  |
|  | *Tribolium castaneum* | Ar\_Tct\_01 | UniProt | D6X0D3 |  | N220 N228 |
|  |  | Ar\_Tct\_02 | UniProt | A0A139WAT1 |  |  |
|  |  | Ar\_Tct\_03 | UniProt | D6X4I9 | N104 |  |
|  |  | Ar\_Tct\_04 | UniProt | D6X4I8 |  |  |
|  |  | Ar\_Tct\_05 | UniProt | D6X4I2 |  |  |
|  |  | Ar\_Tct\_06 | UniProt | D6WYF3 |  |  |
|  |  | Ar\_Tct\_07 | UniProt | D6X4J0 |  |  |
|  |  | Ar\_Tct\_08 | UniProt | D6X4I5 |  | N215 |
|  | *Agrilus planipennis* | Ar\_Apl\_01 | UniProt | A0A1W4XSA6 |  | N228 |
|  |  | Ar\_Apl\_02 | UniProt | A0A1W4XQJ8 |  |  |
|  |  | Ar\_Apl\_03 | UniProt | A0A1W4XPB6 |  |  |
|  |  | Ar\_Apl\_04 | UniProt | A0A1W4WZU8 |  |  |
|  | *Photinus pyralis* | Ar\_Ppy\_01 | UniProt | A0A1Y1L4F3 | N105 |  |
|  |  | Ar\_Ppy\_02 | UniProt | A0A1Y1KBU2 | N84 |  |
|  |  | Ar\_Ppy\_03 | UniProt | A0A5N4A936 |  |  |
|  |  | Ar\_Ppy\_04 | UniProt | A0A1Y1M793 |  |  |
|  |  | Ar\_Ppy\_05 | UniProt | A0A1Y1MWX4 |  |  |
|  |  | Ar\_Ppy\_06 | UniProt | A0A1Y1NGD2 |  | N215 |
|  | *Ceratitis capitata* | Ar\_Cca\_01 | UniProt | W8AZ10 |  |  |
|  |  | Ar\_Cca\_02 | UniProt | W8CE01 |  |  |
|  |  | Ar\_Cca\_03 | UniProt | W8B2W5 |  |  |
|  |  | Ar\_Cca\_04 | UniProt | W8B342 |  |  |
|  |  | Ar\_Cca\_05 | UniProt | W8BD06 | N83 |  |
|  |  | Ar\_Cca\_06 | UniProt | W8AKP4 |  |  |
|  |  | Ar\_Cca\_07 | UniProt | W8B620 |  |  |
|  | *Drosophila albomicans* | Ar\_Dal\_01 | UniProt | A0A6P8Y0G4 |  |  |
|  |  | Ar\_Dal\_02 | UniProt | A0A6P8WFM3 | N101 |  |
|  |  | Ar\_Dal\_03 | UniProt | A0A6P8ZFX3 | N80 |  |
|  |  | Ar\_Dal\_04 | UniProt | A0A6P8Y1Y0 |  |  |
|  |  | Ar\_Dal\_05 | UniProt | A0A6P8Y660 | N103 |  |
|  |  | Ar\_Dal\_06 | UniProt | A0A6P8Y014 |  |  |
|  |  | Ar\_Dal\_07 | UniProt | A0A6P8Y7C9 |  |  |
|  | *Drosophila grimshawi* | Ar\_Dgr\_01 | UniProt | B4JF44 |  |  |
|  |  | Ar\_Dgr\_02 | UniProt | B4JMS8 |  |  |
|  |  | Ar\_Dgr\_03 | UniProt | B4JXM9 |  |  |
|  |  | Ar\_Dgr\_04 | UniProt | B4JN21 |  |  |
|  |  | Ar\_Dgr\_05 | UniProt | B4JKB2 | N80 |  |
|  |  | Ar\_Dgr\_06 | UniProt | B4JMT1 |  |  |
|  |  | Ar\_Dgr\_07 | UniProt | B4IXW7 | N86 |  |
|  | *Drosophila melanogaster* | Ar\_Dme\_01 | UniProt | Q9VR82 | N104 |  |
|  |  | Ar\_Dme\_02 | UniProt | Q9V3W6 | N83 |  |
|  |  | Ar\_Dme\_03 | UniProt | Q9VWL5 |  |  |
|  |  | Ar\_Dme\_04 | UniProt | A0A0B4LHT3 |  |  |
|  |  | Ar\_Dme\_05 | UniProt | Q9VAS7 |  |  |
|  |  | Ar\_Dme\_06 | UniProt | P33085 |  |  |
|  |  | Ar\_Dme\_07 | UniProt | Q9VRX6 | N77 |  |
|  |  | Ar\_Dme\_08 | UniProt | Q9V427 |  |  |
|  |  | Ar\_Dme\_09 | UniProt | P27716 |  |  |
|  | *Glossina austeni* | Ar\_Gau\_01 | UniProt | A0A1A9UUN4 |  |  |
|  |  | Ar\_Gau\_02 | UniProt | A0A1A9VAH4 |  |  |
|  |  | Ar\_Gau\_03 | UniProt | A0A1A9V3V9 | N93 N116 |  |
|  |  | Ar\_Gau\_04 | UniProt | A0A1A9UUN2 |  |  |
|  |  | Ar\_Gau\_05 | UniProt | A0A1A9V3W4 |  |  |
|  | *Musca domestica* | Ar\_Mdo\_01 | UniProt | T1PCB4 | N83 |  |
|  |  | Ar\_Mdo\_02 | UniProt | A0A1I8MBQ8 |  |  |
|  |  | Ar\_Mdo\_03 | UniProt | A0A1I8NDJ6 | N93 |  |
|  |  | Ar\_Mdo\_04 | UniProt | T1PEY5 |  |  |
|  |  | Ar\_Mdo\_05 | UniProt | A0A1I8MU37 |  |  |
|  | *Bombyx mori* | Ar\_Bmo\_01 | UniProt | H9IT73 | N85 |  |
|  |  | Ar\_Bmo\_02 | UniProt | Q5XLD8 |  | N232 |
|  |  | Ar\_Bmo\_03 | UniProt | Q6SA04 |  |  |
|  | *Manduca sexta* | Ar\_Mse\_01 | UniProt | A0A517BE25 | N85 | N235 |
|  |  | Ar\_Mse\_02 | UniProt | A0A517BE21 | N85 |  |
|  |  | Ar\_Mse\_03 | UniProt | A0A517BE34 |  |  |
|  |  | Ar\_Mse\_04 | UniProt | A0A517BE20 |  |  |
|  |  | Ar\_Mse\_05 | UniProt | A0A517BE40 |  |  |
|  |  | Ar\_Mse\_06 | UniProt | A0A517BE30 |  |  |
|  | *Heliothis virescens* | Ar\_Hvi\_01 | UniProt | A0A2A4K0X0 |  |  |
|  |  | Ar\_Hvi\_02 | UniProt | A0A2A4K6A3 | N82 |  |
|  |  | Ar\_Hvi\_03 | UniProt | A0A2A4K6C4 |  |  |
|  |  | Ar\_Hvi\_04 | UniProt | Q6GVH1 |  |  |
|  |  | Ar\_Hvi\_05 | UniProt | A0A2A4K2D6 | N86 |  |
|  | *Danaus plexippus plexippus* | Ar\_Dpl\_01 | UniProt | A0A212FCE9 | N85 |  |
|  |  | Ar\_Dpl\_02 | UniProt | A0A212F4N9 |  |  |
|  |  | Ar\_Dpl\_03 | UniProt | A0A212EW68 |  |  |
|  |  | Ar\_Dpl\_04 | UniProt | A0A212EYK5 |  |  |
|  | *Papilio machaon* | Ar\_Pma\_01 | UniProt | A0A0N1I9S5 |  |  |
|  |  | Ar\_Pma\_02 | UniProt | A0A194QW93 |  |  |
|  |  | Ar\_Pma\_03 | UniProt | A0A0N1IHM3 |  |  |
|  |  | Ar\_Pma\_04 | UniProt | A0A0N1IGD1 |  |  |
|  |  | Ar\_Pma\_05 | UniProt | A0A0N0PCR1 |  |  |
|  | *Galleria mellonella* | Ar\_Gme\_01 | UniProt | A0A6J1WCG0 | N62 |  |
|  |  | Ar\_Gme\_02 | UniProt | A0A6J1WMU7 |  |  |
|  |  | Ar\_Gme\_03 | UniProt | A0A6J1X3M4 |  |  |
|  |  | Ar\_Gme\_04 | UniProt | A0A6J1X371 |  |  |
|  | *Apis mellifera* | Ar\_Ame\_01 | UniProt | A0A088A2D6 | N237 |  |
|  |  | Ar\_Ame\_02 | UniProt | A0A088A2D0 | N92 |  |
|  |  | Ar\_Ame\_03 | UniProt | A0A088AID2 |  |  |
|  | *Bombus bifarius* | Ar\_Bbi\_01 | UniProt | A0A6P8LE89 |  |  |
|  |  | Ar\_Bbi\_02 | UniProt | A0A6P8LET5 |  |  |
|  |  | Ar\_Bbi\_03 | UniProt | A0A6P8LT46 | N92 |  |
|  |  | Ar\_Bbi\_04 | UniProt | A0A6P8MF07 |  |  |
|  |  | Ar\_Bbi\_05 | UniProt | A0A6P8M4T9 |  |  |
|  |  | Ar\_Bbi\_06 | UniProt | A0A6P8ND58 |  |  |
|  | *Lasius niger* | Ar\_Lni\_01 | UniProt | A0A0J7KSE9 |  |  |
|  |  | Ar\_Lni\_02 | UniProt | A0A0J7KZE2 | N57 N82 |  |
|  |  | Ar\_Lni\_03 | UniProt | A0A0J7LA69 |  |  |
|  |  | Ar\_Lni\_04 | UniProt | A0A0J7KFC1 |  |  |
|  | *Atta cephalotes* | Ar\_Ace\_01 | UniProt | A0A158NQK4 |  |  |
|  |  | Ar\_Ace\_02 | UniProt | A0A158NU57 |  |  |
|  |  | Ar\_Ace\_03 | UniProt | A0A158NQK3 |  |  |
|  |  | Ar\_Ace\_04 | UniProt | A0A158NPV6 |  |  |
|  |  | Ar\_Ace\_05 | UniProt | A0A158NQK6 |  |  |
|  |  | Ar\_Ace\_06 | UniProt | A0A158NQK5 | N91 |  |
|  | *Dinoponera quadriceps* | Ar\_Dqu\_01 | UniProt | A0A6P3XJ21 |  |  |
|  |  | Ar\_Dqu\_02 | UniProt | A0A6P3XHS1 | N92 |  |
|  |  | Ar\_Dqu\_03 | UniProt | A0A6P3XJ24 |  |  |
|  |  | Ar\_Dqu\_04 | UniProt | A0A6P3XFQ9 |  |  |
|  |  | Ar\_Dqu\_05 | UniProt | A0A6P3XJL3 |  |  |
|  |  | Ar\_Dqu\_06 | UniProt | A0A6P3X6E4 |  |  |
|  | *Ooceraea biroi* | Ar\_Obi\_01 | UniProt | A0A026WUY9 |  |  |
|  |  | Ar\_Obi\_02 | UniProt | A0A026WWJ5 |  |  |
|  |  | Ar\_Obi\_03 | UniProt | A0A3L8E3W4 | N88 |  |
|  |  | Ar\_Obi\_04 | UniProt | A0A026X0B1 |  |  |
|  |  | Ar\_Obi\_05 | UniProt | A0A026WVZ4 |  |  |
|  |  | Ar\_Obi\_06 | UniProt | A0A026WXJ9 |  |  |
|  | *Nasonia vitripennis* | Ar\_Nvi\_01 | UniProt | K7J6Q6 |  |  |
|  |  | Ar\_Nvi\_02 | UniProt | K7J6Q8 |  | N216 |
|  |  | Ar\_Nvi\_03 | UniProt | K7J6Q9 | N89 |  |
|  |  | Ar\_Nvi\_04 | UniProt | K7J0A9 |  |  |
|  | *Fopius arisanus* | Ar\_Far\_01 | UniProt | A0A0C9QE81 |  |  |
|  |  | Ar\_Far\_02 | UniProt | A0A0C9R0I7 | N91 |  |
|  |  | Ar\_Far\_03 | UniProt | A0A0C9QJQ2 |  |  |
|  |  | Ar\_Far\_04 | UniProt | A0A0C9QHU7 |  |  |
|  |  | Ar\_Far\_05 | UniProt | A0A0C9QAE6 |  |  |
|  |  | Ar\_Far\_06 | UniProt | A0A0C9PHI7 |  |  |
|  | *Neodiprion lecontei* | Ar\_Nle\_01 | UniProt | A0A6J0BWI9 |  |  |
|  |  | Ar\_Nle\_02 | UniProt | A0A6J0C563 |  |  |
|  |  | Ar\_Nle\_03 | UniProt | A0A6J0BVT8 | N88 |  |
|  |  | Ar\_Nle\_04 | UniProt | A0A6J0BXN6 |  |  |
|  |  | Ar\_Nle\_05 | UniProt | A0A6J0B4W1 |  |  |
|  |  | Ar\_Nle\_06 | UniProt | A0A6J0BXT1 |  |  |
|  |  | Ar\_Nle\_07 | UniProt | A0A6J0BUN7 |  |  |
|  | *Cancer borealis* | Ar\_Cbo\_01 | NCBI | AFN25964.1 |  |  |
|  | Ar\_Cbo\_02 | NCBI | AFN25965.1 |  |  |
|  | Ar\_Cbo\_03 | NCBI | AFN25966.1 |  |  |
|  | Ar\_Cbo\_04 | NCBI | AID07491.1 |  |  |
|  | Ar\_Cbo\_05 | NCBI | AIJ10714.1 |  |  |
|  | Ar\_Cbo\_06 | NCBI | AIJ10714.1 |  |  |

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| **Xenacoelomorphs** | *Hofstenia miamia* | Xe\_Hmi\_01 | NCBI TSA | GFSA01016590.1 |  |  |
| Xe\_Hmi\_02 | NCBI TSA | GFSA01018083.1 |  |  |
| Xe\_Hmi\_03 | NCBI TSA | GFSA01025217.1 | N67 |  |
| Xe\_Hmi\_04 | NCBI TSA | GFSA01028240.1 |  |  |
| Xe\_Hmi\_05 | NCBI TSA | GFSA01035590.1 |  |  |
| Xe\_Hmi\_06 | NCBI TSA | GFSA01000361.1 | N51 |  |
| Xe\_Hmi\_07 | NCBI TSA | GFSA01040070.1 |  |  |
| Xe\_Hmi\_08 | NCBI TSA | GFSA01043372.1 |  |  |
| Xe\_Hmi\_09 | NCBI TSA | GFSA01048585.1 | N70 |  |
| Xe\_Hmi\_10 | NCBI TSA | GFSA01048994.1 |  |  |
| Xe\_Hmi\_11 | NCBI TSA | GFSA01049854.1 |  |  |
| Xe\_Hmi\_12 | NCBI TSA | GFSA01052710.1 |  |  |
| Xe\_Hmi\_13 | NCBI TSA | GFSA01055299.1 |  |  |
| Xe\_Hmi\_14 | NCBI TSA | GFSA01056382.1 |  | N225 |
| Xe\_Hmi\_15 | NCBI TSA | GFSA01057723.1 |  |  |
| Xe\_Hmi\_16 | NCBI TSA | GFSA01066405.1 | N69 |  |
| Xe\_Hmi\_17 | NCBI TSA | GFSA01066474.1 | N73 | N227 N268 |
| Xe\_Hmi\_18 | NCBI TSA | GFSA01120359.1 |  | N225 |
| Xe\_Hmi\_19 | NCBI TSA | GFSA01120558.1 |  |  |
| Xe\_Hmi\_20 | NCBI TSA | GFSA01010893.1 |  |  |
| *Isodiametra pulchra* | Xe\_Ipu\_01 | NCBI TSA | GGBV01013673.1 |  |  |
| Xe\_Ipu\_02 | NCBI TSA | GGBV01079800.1 | N51 |  |
| Xe\_Ipu\_03 | NCBI TSA | GGBV01097887.1 | N53 |  |
| Xe\_Ipu\_04 | NCBI TSA | GGBV01097903.1 |  | N248 |
| Xe\_Ipu\_05 | NCBI TSA | GGBV01110131.1 |  |  |
| Xe\_Ipu\_06 | NCBI TSA | GGBV01110487.1 |  | N236 |
| Xe\_Ipu\_07 | NCBI TSA | GGBV01111987.1 |  |  |
| Xe\_Ipu\_08 | NCBI TSA | GGBV01115553.1 |  | N236 |
| Xe\_Ipu\_09 | NCBI TSA | GGBV01122036.1 |  |  |
| Xe\_Ipu\_10 | NCBI TSA | GGBV01134023.1 |  |  |
| Xe\_Ipu\_11 | NCBI TSA | GGBV01139128.1 |  |  |
| Xe\_Ipu\_12 | NCBI TSA | GGBV01158397.1 |  |  |
| Xe\_Ipu\_13 | NCBI TSA | GGBV01164032.1 |  |  |
| *Symsagittifera roscoffensis* | Xe\_Sro\_01 | NCBI TSA | GFRZ01119853.1 | N59 |  |
| Xe\_Sro\_02 | NCBI TSA | GFRZ01138313.1 |  |  |
| Xe\_Sro\_03 | NCBI TSA | GFRZ01150821.1 |  |  |
| Xe\_Sro\_04 | NCBI TSA | GFRZ01156175.1 |  |  |
| Xe\_Sro\_05 | NCBI TSA | GFRZ01158749.1 |  |  |
| Xe\_Sro\_06 | NCBI TSA | GFRZ01161908.1 | N51 |  |
| Xe\_Sro\_07 | NCBI TSA | GFRZ01184394.1 |  |  |
| Xe\_Sro\_08 | NCBI TSA | GFRZ01186732.1 |  |  |
| Xe\_Sro\_09 | NCBI TSA | GFRZ01196287.1 |  |  |
| Xe\_Sro\_10 | NCBI TSA | GFRZ01206159.1 |  |  |
| Xe\_Sro\_11 | NCBI TSA | GFRZ01214008.1 |  |  |
| Xe\_Sro\_12 | NCBI TSA | GFRZ01244963.1 |  | N238 |
| Xe\_Sro\_13 | NCBI TSA | GFRZ01259699.1 |  |  |
|  | Xe\_Sro\_14 | NCBI TSA | GFRZ01272870.1 |  |  |
|  | *Xenoturbella bocki* | Xe\_Xbo\_01 | NCBI TSA | GGMI01080781.1 |  |  |
|  | Xe\_Xbo\_02 | NCBI TSA | GGMI01174086.1 |  |  |

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| **Echinoderms** | *Apostichopus japonicus* | Ec\_Aja\_01 | NCBI TSA | GHCH01013653.1 |  |  |
| NCBI TSA | GHCH01047549.1 |
| *Arbacia punctulata* | Ec\_Apu\_01 | NCBI TSA | GECD01051584.1 |  |  |
| NCBI TSA | GECD01003551.1 |
| NCBI TSA | GECD01013000.1 |
| NCBI TSA | GECD01070990.1 |
| NCBI TSA | GECD01026667.1 |
| *Asterias rubens* | Ec\_Aru\_01 | NCBI TSA | GHKZ01096691.1 | N53 |  |
| NCBI TSA | GHKZ01082365.1 |
| *Paracentrotus lividus* | Ec\_Pli\_01 | NCBI TSA | GIIR01058804.1 |  |  |