|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Ens87** | | **Common name** | **Scientific name** | **Abbrevation** | **Assembly Ensembl** | **Assembly NCBI** |  |  |  |
|  | | Anole lizard | *Anolis carolinensis* | Aca | AnoCar2.0 | AnoCar2.0 |  |  |  |
|  | | Amphioxus | *Branchiostoma floridae* | Bfl |  | GCA\_000003815.1 Version 2 |  |  |  |
|  | | *Ciona intestinalis* | *Ciona intestinalis* | Cin | KH |  |  |  |  |
|  | | *Ciona savignyi* | *Ciona savignyi* | Csa | CSAV 2.0 |  |  |  |  |
|  | | *Caenorhabditis elegans* | *Caenorhabditis elegans* | Cel | WBcel235 |  |  |  |  |
|  | | Chicken | *Gallus gallus* | Gga | Gallus\_gallus-5.0 |  |  |  |  |
|  | | Coelacanth | *Latimeria chalumnae* | Lch | LatCha1 | LatCha1 |  |  |  |
|  | | European Eel | *Anguilla Anguilla* | Aan |  | Anguilla\_anguilla\_v1\_09\_nov\_10 |  |  |  |
|  | | Frog | *Xenopus tropicalis* | Xtr | JGI 4.2 | Xenopus\_tropicalis\_v9.1 |  |  |  |
|  | | Human | *Homo sapiens* | Hsa | GRCh38.p7 |  |  |  |  |
|  | | Medaka | *Oryzias latipes* | Ola | HdrR | ASM223467v1 |  |  |  |
|  | | Mouse | *Mus musculus* | Mmu | GRCm38.p4 |  |  |  |  |
|  | | Opposum | *Monodelphis domestica* | Mdo | monDom5 |  |  |  |  |
|  | | Spotted gar | *Lepisosteus oculatus* | Loc | LepOcu1 | LepOcu1 |  |  |  |
|  | | Stickleback | *Gasterosteus oculeatus* | Gac | BROAD S1 |  |  |  |  |
|  | | Zebrafish | *Danio rerio* | Dre | GRCz10 | GRCz11 |  |  |  |
| **Species** | | **HGNC/ZFIN/Flybase symbol** | **Chromosome/ genomic scaffold** | **Orientation** | **Ensembl Gene ID/Other accession nr** | **Ensembl Transcript ID** | **Assigned sequence name Jalview alignment** | **Assigned sequence name PhyML tree** | **Comme-nts** |
| Human | | **CHRM1** | 11: 62.91m | rev | ENSG00000168539 | ENST00000306960.3 | Hsa.11.CHRM1 | Human.11.CHRM1 |  |
| Mouse | |  | 19: 8.66m | fwd | ENSMUSG00000032773 | ENSMUSG00000032773 | Mmu.19 | Mouse.19 |  |
| Opossum | |  | 5: 300.81m | rev | ENSMODG00000008164 | ENSMODT00000010339.2 | Mdo.5.2 | Opposum.5.2 |  |
| Anole lizard | |  | GL344791.1: 0.15m | rev | ENSACAG00000010234 | ENSACAT00000010234.2 | Aca.344791 | Anole lizard.GL344791 | *manually edited* |
| Frog | |  | 4: 36.05m | fwd | XP\_004913718.1 |  | Xtr.4.2 | Xenopus.4.2 |  |
| Coelacanth | |  | JH126593.1: 0.46m | fwd | ENSLACG00000009972 | ENSLACT00000011420.1 | Lch.126593 | Coelacanth.JH126593 | *manually edited* |
| Spotted gar | |  | LG28: 3.48m | rev | ENSLOCG00000017613 | ENSLOCT00000021755.1 | Loc.LG28 | Spotted gar.LG28 |  |
| Zebrafish | | CHRM1a | 14: 23.96m | fwd | ENSDARG00000037292 | ENSDART00000173227.1 | Dre.14 | Zebrafish.14.CHRM1a |  |
|  | | CHRM1b | 5: 37.16m | rev | ENSDARG00000009121 | ENSDART00000020646.7 | Dre.5 | Zebrafish.5.CHRM1b |  |
| European eel | |  | contig\_98141 |  | AZBK01767327.1 |  | Aan.98141 | European eel.98141 | may-14, *manually edited* |
|  | |  | contig\_157760 |  | AZBK01707708.1 |  | Aan.157760 | European eel.157760 | may-14, *manually edited* |
| Human | | **CHRM2** | 7: 136.87m | fwd | ENSG00000181072 | ENST00000445907.6 | Hsa.7.CHRM2 | Human.7.CHRM2 |  |
| Mouse | |  | 6: 36.39m | fwd | ENSMUSG00000045613 | ENSMUST00000172278.7 | Mmu.6 | Mouse.6 |  |
| Opossum | |  | 8: 198.46m | fwd | ENSMODG00000024440 | ENSMODT00000035723.1 | Mdo.8 | Opposum.8 |  |
| Chicken | |  | 1: 57.86m | rev | ENSGALG00000012894 | ENSGALT00000021029.3 | Gga.1 | Chicken.1 |  |
| Anole lizard | |  | GL343419.1: 0.35m | rev | ENSACAG00000012100 | ENSACAT00000012077.1 | Aca.343419 | Anole lizard.GL343419 |  |
| Frog | |  | GL173744.1: 0.06m | rev | ENSXETG00000020175 | ENSXETT00000043526.3 | Xtr.173744 | Xenopus.GL173744 |  |
| Coelacanth | |  | JH126628.1: 1.45m | rev | ENSLACG00000016094 | ENSLACT00000018403.1 | Lch.126628 | Coelacanth.JH126628 |  |
| Spotted gar | |  | LG8: 38.28m | fwd | ENSLOCG00000017918 | ENSLOCT00000022060.1 | Loc.LG8 | Spotted gar.LG8 |  |
| Zebrafish | | CHRM2b | 25: 21.05m | fwd | XP\_021326218.1 |  | Dre.25.2 | Zebrafish.25.2.CHRM2b |  |
|  | | CHRM2a | 4: 1.13m | fwd | ENSDARG00000098612 | ENSDART00000167233.1 | Dre.4 | Zebrafish.4.CHRM2a |  |
| Medaka | |  | 6: 21.31m | fwd | XP\_004069752.1 |  | Ola.6.1 | Medaka.6.1 | feb-18 |
|  | |  | 23: 18.63m | fwd | XP\_020569752.1 |  | Ola.23 | Medaka.23 | feb-18 |
| Stickleback | |  | groupXIX: 15.19m | rev | ENSGACG00000011914 | ENSGACT00000015788.1 | Gac.XIX.2 | Stickleback.XIX.2 | *manually edited* |
|  | |  | groupIV: 31.17m | rev | ENSGACG00000019948 | ENSGACT00000026406.1 | Gac.IV | Stickleback.IV | *manually edited* |
| European eel | |  | contig\_70837 |  | AZBK01794631 |  | Aan.70837 | European eel.70837 | may-14 |
| Human | | **CHRM3** | 1: 239.39m | fwd | ENSG00000133019 | ENST00000255380.8 | Hsa.1.CHRM3 | Human.1.CHRM3 |  |
| Mouse | |  | 13: 9.88m | rev | ENSMUSG00000046159 | ENSMUST00000187510.6 | Mmu.13 | Mouse.13 |  |
| Opossum | |  | 2: 148.69m | rev | ENSMODG00000024652 | ENSMODT00000036568.1 | Mdo.2 | Opposum.2 |  |
| Chicken | |  | 3: 36.53m | rev | ENSGALG00000010778 | ENSGALT00000017530.4 | Gga.3 | Chicken.3 | *manually edited* |
| Anole lizard | |  | 1: 217.19m | rev | ENSACAG00000003639 | ENSACAT00000003615.2 | Aca.1.3 | Anole lizard.1.3 | *manually edited* |
| Frog | |  | 5: 59.93m | fwd | XP\_002935876.1 |  | Xtr.5 | Xenopus.5 | sep-16 |
| Coelacanth | |  | JH127049.1: 0.03m | fwd | ENSLACG00000022555 | ENSLACT00000025889.1 | Lch.127049 | Coelacanth.JH127049 | *manually edited* |
| Spotted gar | |  | LG16: 15.78m | rev | ENSLOCG00000017368 | ENSLOCT00000021510.1 | Loc.LG16 | Spotted gar.LG16 |  |
| Zebrafish | | CHRM3a | 17: 19.81m | rev | ENSDARG00000071091 | ENSDART00000154251.1 | Dre.17.2 | Zebrafish.17.2.CHRM3a |  |
|  | | CHRM3b | 12: 47.43m | fwd | ENSDARG00000071298 | ENSDART00000105331.4 | Dre.12 | Zebrafish.12.CHRM3b |  |
| Medaka |  | | 15: 18.08m | fwd | XP\_011482665.1 |  | Ola.15 | Medaka.15 | feb-18, *manually edited* |
|  | |  | 19: 17.01m | rev | XP\_023805573.1 |  | Ola.19 | Medaka.19 | feb-18, *manually edited* |
| Stickleback | |  | groupVI: 12.30m | rev | ENSGACG00000010124 | ENSGACT00000013390.1 | Gac.VI | Stickleback.VI | *manually edited* |
|  | |  | scaffold\_48: 1.06m | rev | ENSGACG00000015318 | ENSGACT00000020240.1 | Gac.sc48 | Stickleback.scaffold 48 | *manually edited* |
| European eel | |  | contig\_61072 |  | AZBK01804396.1 |  | Aan.61072 | European eel.61072 | may-14, *manually edited* |
|  | |  | contig\_75028 |  | AZBK01790440.1 |  | Aan.75028 | European eel.75028 | May-14, *manually edited* |
| Human | | **CHRM4** | 11: 46.39m | rev | ENSG00000180720 | ENST00000433765.3 | Hsa.11.CHRM4 | Human.11.CHRM4 |  |
| Mouse | |  | 2: 91.93m | fwd | ENSMUSG00000040495 | ENSMUST00000045537.3 | Mmu.2.1 | Mouse.2 |  |
| Opossum | |  | 5: 283.47m | rev | XP\_007497444.1 |  | Mdo.5.1 | Opposum.5.1 |  |
| Chicken | |  | 5: 23.65m | fwd | ENSGALG00000008365 | ENSGALT00000013620.4 | Gga.5.1 | Chicken.5.1 | *manually edited* |
| Anole lizard | |  | 1: 42.63m | rev | ENSACAG00000004120 | ENSACAT00000004095.3 | Aca.1.2 | Anole lizard.1.2 | *manually edited* |
| Frog | |  | 4: 5.22m | fwd | NP\_001106514.1 |  | Xtr.4.1 | Xenopus.4.1 | okt-16 |
| Coelacanth | |  | JH126568.1: 4.19m | rev | ENSLACG00000018713 | ENSLACT00000021435.1 | Lch.126568 | Coelacanth.JH126568 | *manually edited* |
| Spotted gar | |  | LG27: 11.86m | fwd | ENSLOCG00000005536 | ENSLOCT00000006691.1 | Loc.LG27 | Spotted gar.LG27 |  |
| Zebrafish | | CHRM4a | 7: 38.91m | rev | ENSDARG00000069254 | ENSDART00000100639.4 | Dre.7 | Zebrafish.7.CHRM4a | *manually edited* |
|  | | CHRM4b | 25: 7.76m | rev | ENSDARG00000017722 | ENSDART00000157276.1 | Dre.25.1 | Zebrafish.25.1.CHRM4b |  |
| Medaka | |  | 2: 1.07m | rev | XP\_023817375.1 |  | Ola.2 | Medaka.2 | feb-18 |
|  | |  | 6: 26.80m | fwd | XP\_011474704.2 |  | Ola.6.2 | Medaka.6.2 | feb-18 |
| Stickleback | |  | groupI: 27.13m | rev | ENSGACG00000015349 | ENSGACT00000020282.1 | Gac.I | Stickleback.I | *manually edited* |
|  | |  | groupXIX: 8.95m | fwd | ENSGACG00000007854 | ENSGACT00000010430.1 | Gac.XIX.1 | Stickleback.XIX.1 | *manually edited* |
| European eel | |  | contig\_172290 |  | AZBK01693178.1 |  | Aan.172290 | European eel.172290 | may-14, *manually edited* |
|  | |  | contig\_15756 |  | AZBK01849712.1 |  | Aan.15756 | European eel.15756 | may-14, *manually edited* |
| Human | | **CHRM5** | 15: 33.97m | fwd | ENSG00000184984 | ENST00000383263.6 | Hsa.15.CHRM5 | Human.15.CHRM5 |  |
| Mouse | |  | 2: 112.48m | rev | ENSMUSG00000074939 | ENSMUST00000099589.3 | Mmu.2.2 | Mouse.2 |  |
| Opossum | |  | 1: 187.21m | rev | ENSMODG00000024252 | ENSMODT00000035304.1 | Mdo.1 | Opposum.1 |  |
| Chicken | |  | 5: 30.08m | rev | ENSGALG00000009640 | ENSGALT00000015701.3 | Gga.5.2 | Chicken.5.2 |  |
| Anole lizard | |  | 1: 33.66m | fwd | ENSACAG00000015381 | ENSACAT00000015410.2 | Aca.1.1 | Anole lizard.1.1 |  |
| Frog | |  | GL172781.1: 0.28m | fwd | ENSXETG00000017868 | ENSXETT00000054915.3 | Xtr.172781 | Xenopus.GL172781 |  |
| Coelacanth | |  | JH127233.1: 0.39m | rev | ENSLACG00000009104 | ENSLACT00000010416.1 | Lch.127233 | Coelacanth.JH127233 |  |
| Spotted gar | |  | LG7: 15.11m | rev | ENSLOCG00000017709 | ENSLOCT00000021851.1 | Loc.LG7 | Spotted gar.LG7 |  |
| Zebrafish | | CHRM5a | 17: 0.46m | rev | ENSDARG00000099928 | ENSDART00000168718.1 | Dre.17.1 | Zebrafish.17.1.CHRM5a |  |
|  | | CHRM5b | 20: 29.33m | rev | ENSDARG00000069598 | ENSDART00000101418.4 | Dre.20 | Zebrafish.20.CHRM5b | *manually edited* |
| Medaka | |  | 22: 14.14m | rev | XP\_020569528.1 |  | Ola.22 | Medaka.22 | feb-18 |
|  | |  | 24: 20.00m | rev | XP\_023808668.1 |  | Ola.24 | Medaka.24 | feb-18 |
| Stickleback | |  | groupXV: 2.35m | rev | ENSGACG00000006035 | ENSGACT00000008002.1 | Gac.XV | Stickleback.XV |  |
|  | |  | groupXVIII: 6.86m | rev | ENSGACG00000007923 | ENSGACT00000010528.1 | Gac.XVIII | Stickleback.XVIII | *manually edited* |
| European eel | |  | contig\_17996 |  | AZBK01847472.1 |  | Aan.17996 | European eel.17996 | may-14, *manually edited* |
|  | |  | contig\_63286 |  | AZBK01802182.1 |  | Aan.63286 | European eel.63286 | may-14, *manually edited* |
| Ciona intestinalis | |  | 11: 4.28m | rev | ENSCING00000019975 | ENSCINT00000030829.1 | Cin.11 | Cin.11 |  |
|  | |  | Scaffold HT000119.1: 0.34m | rev | ENSCING00000003264 | ENSCINT00000006703.3 | Cin.HT19 | Cin.HT000119 |  |
|  | |  | Scaffold HT000185.1: 0.02m | rev | ENSCING00000008896 | ENSCINT00000018103.3 | Cin.HT85 | Cin.HT000185 |  |
|  | |  | Scaffold HT001153.1: 0.02m | fwd | ENSCING00000007685 | ENSCINT00000015775.3 | Cin.HT53 | Cin.HT001153 |  |
| Ciona savigny | |  | reftig\_16: 3.64m | rev | ENSCSAVG00000011335 | ENSCSAVT00000019512.1 | Csa.ref16 | Csa.ref16 |  |
|  | |  | reftig\_21: 0.04m | rev | ENSCSAVG00000002827 | ENSCSAVT00000004815.1 | Csa.ref21 | Csa.ref21 |  |
|  | |  | reftig\_312: 0.44m | rev | ENSCSAVG00000000994 | ENSCSAVT00000001744.1 | Csa.ref312 | Csa.ref312 |  |
| C. elegans | |  | V: 14.56m | rev | WBGene00001519 | Y40H4A.1b | Cel.V | C. elegans.V |  |