Supplemental Data, S1

ER alpha Summary results from SeqAPASS

Level 1 and Level 2 results previously summarized in Ankley et al., 2016

Ankley, G; LaLone, C; Gray, L; Villeneuve, D; Hornung, M. (2016). Evaluation of the scientific underpinnings for identifying estrogenic chemicals in nonmammalian taxa using mammalian test systems. Environ. Toxicol. Chem. 35 (11), 2806-2816.

Level 3 (for full results see Supplemental Tables, Estrogen Receptor)

|  |  |  |  |
| --- | --- | --- | --- |
| Taxonomic Group |  Class Name | # of Spp. | Shared Susceptibility |
| Mammals | Mammalia | 130 | Yes |
| Birds | Aves | 72 | Yes |
| Lizards, Snakes | Lepidosauria | 14 | Yes |
| Turtles | Testudines | 9 | Yes |
| Crocodiles, Alligators | Crocodylia | 7 | Yes |
| Amphibians | Amphibia | 14 | Yes |
| Coelacanths | Coelacanthiformes | 1 | Yes |
| Lungfish | Ceratodontimorpha | 2 | Yes |
| Boney Fish | Actinopteri | 104 | Yes |
| Sharks, Rays | Chondrichthyes | 2 | Yes |
| Lamprey | Petromyzontiformes | 1 | Yes |
| Hagfish | Myxiniformes | 1 | Yes |

ER beta Summary results from SeqAPASS

Level 1 Human Estrogen Receptor beta primary amino acid comparison



Level 2 Human Estrogen Receptor beta ligand binding domain comparison (cd06934)



Level 3 (for full results see Supplemental Tables, Estrogen Receptor beta)

|  |  |  |  |
| --- | --- | --- | --- |
| Taxonomic Group |  Class Name | # of Spp. | Shared Susceptibility |
| Mammals | Mammalia | 88/14 | Yes/No |
| Crocodiles/Alligators | Crocodylia | 4 | Yes |
| Testudines | Testudines | 6 | Yes |
| Birds | Aves | 67 | Yes |
| Bony Fish | Actinopteri | 32/71 | Yes/No |
| Lizards/Snakes | Lepidosauria | 10/3 | Yes/No |
| Frogs/Salamanders | Amphibia | 8/2 | Yes/No |
| Lung fish | Ceratodontimorpha | 2 | Yes |
| Coelacanth | Coelacanthiformes | 2 | Yes |
| Sharks/Rays | Chondrichthyes | 5 | Yes |
| Bichir | Cladistia | 1 | Yes |
| Hagfish | Myxiniformes | 1 | Yes |
| Lamprey | Petromyzontiformes | 1 | Yes |

AR Summary results from SeqAPASS

Level 1 and Level 2 results previously summarized in LaLone et al., 2018

LaLone, C.A., Villeneuve, D., Doering, J.A., Blackwell, B.R., Transue, T.R., Simmons, C.W., Swintek, J.A., Degitz, S.J., Williams, A.J., and Ankley, G.T. (2018). Defining the Taxonomic Domain of Applicability for Mammalian-Based High-Throughput Screening Assays. Environmental Science and Technology. Environmental Science and Technology 52(23), 13960-13971.

Level 3 (for full results see Supplemental Tables, Androgen Receptor)

|  |  |  |  |
| --- | --- | --- | --- |
| Taxonomic Group |  Class Name | # of Spp. | Shared Susceptibility |
| Mammals | Mammalia | 118/1 | Yes/No |
| Lizards, Snakes | Lepidosauria | 11 | Yes |
| Turtles | Testudines | 3 | Yes |
| Birds | Aves | 58 | Yes |
| Crocodiles, Alligators | Crocodylia | 4 | Yes |
| Amphibians | Amphibia | 13 | Yes |
| Coelacanths | Coelacanthiformes | 2 | Yes |
| Eel-shaped | Cladistia | 1 | Yes |
| Bony Fish | Actinopteri | 87/1 | Yes/No |
| Sharks, Rays | Chondrichthyes | 4 | Yes |
| Lungfish | Ceratodontimorpha | 2 | Yes |

THa Summary results from SeqAPASS

Level 1 and Level 2 results previously summarized in LaLone et al., 2018

LaLone, C.A., Villeneuve, D., Doering, J.A., Blackwell, B.R., Transue, T.R., Simmons, C.W., Swintek, J.A., Degitz, S.J., Williams, A.J., and Ankley, G.T. (2018). Defining the Taxonomic Domain of Applicability for Mammalian-Based High-Throughput Screening Assays. Environmental Science and Technology. Environmental Science and Technology 52(23), 13960-13971.

Level 3 (for full results see Supplemental Tables, Thyroid Hormone Receptor a)

|  |  |  |  |
| --- | --- | --- | --- |
| Taxonomic Group | Class Name | # of Spp. | Shared Susceptibility |
| Mammals | Mammalia | 113/8 | Yes/No |
| Birds | Aves | 21 | Yes |
| Lizards, Snakes | Lepidosauria | 9 | Yes |
| Turtles | Testudines | 3 | Yes |
| Crocodiles, Alligators | Crocodylia | 4 | Yes |
| Amphibians | Amphibia | 10 | Yes |
| Coelacanths | Coelacanthiformes | 1 | Yes |
| Bony Fish | Actinopteri | 65/13 | Yes/No |
| Sharks, Rays | Chondrichthyes | 1 | Yes |
| Lamprey | Petromyzontiformes | 1 | No |

THb Summary results from SeqAPASS

Level 1 and Level 2 results previously summarized in LaLone et al., 2018

LaLone, C.A., Villeneuve, D., Doering, J.A., Blackwell, B.R., Transue, T.R., Simmons, C.W., Swintek, J.A., Degitz, S.J., Williams, A.J., and Ankley, G.T. (2018). Defining the Taxonomic Domain of Applicability for Mammalian-Based High-Throughput Screening Assays. Environmental Science and Technology. Environmental Science and Technology 52(23), 13960-13971.

Level 3 (for full results see Supplemental Tables, Thyroid Hormone Receptor b)

|  |  |  |  |
| --- | --- | --- | --- |
| Taxonomic Group | Class Name | # of Spp. | Shared Susceptibility |
| Mammals | Mammalia | 120 | Yes |
| Birds | Aves | 72 | Yes |
| Lizards, Snakes | Lepidosauria | 9 | Yes |
| Turtles | Testudines | 4 | Yes |
| Crocodiles, Alligators | Crocodylia | 4 | Yes |
| Amphibians | Amphibia | 12 | Yes |
| Bony Fish | Actinopteri | 70/1 | Yes/No |
| Sharks, Rays | Chondrichthyes | 1 | Yes |
| Lamprey | Petromyzontiformes | 1 | Yes |

PXR Summary results from SeqAPASS

Level 1 Human Pregnane X Receptor primary amino acid comparison



Level 2 Human Pregnane X Receptor ligand binding domain comparison (cd06934)



Level 3 (for full results see Supplemental Tables, Pregnane X Receptor )

|  |  |  |  |
| --- | --- | --- | --- |
| Taxonomic Group |  Class Name | # of Spp. | Shared Susceptibility |
| Mammals | Mammalia | 88/14 | Yes/No |
| Birds | Aves | 1 | Yes |
| Amphibians | Amphibia | 1/1 | Yes/No |
| Boney Fish | Actinopteri | 51/1 | Yes/No |
| Sharks, Rays | Chondrichthyes | 1 | Yes |

PPARg Summary results from SeqAPASS

Level 1 Human PPARgamma primary amino acid comparison



Level 2 Human PPARgamma functional domain comparison (cd06932)



Level 3 (for full results see Supplemental Tables, PPARgamma)

|  |  |  |  |
| --- | --- | --- | --- |
| Taxonomic Group | Class Name | # of Spp. | Shared Susceptibility |
| Mammals | Mammalia | 126 | Yes |
| Birds | Aves | 1/80 | Yes/No |
| Lizards, Snakes | Lepidosauria | 11 | No |
| Turtles | Testudines | 7 | No |
| Crocodiles, Alligators | Crocodylia | 5 | No |
| Amphibians | Amphibia | 2 | No |
| Coelacanths | Coelacanthiformes | 1 | No |
| Bony Fish | Actinopteri | 90 | No |
| Sharks, Rays | Chondrichthyes | 3 | No |
| Lamprey | Petromyzontiformes | 1 | No |