

Additional file 1. **Newly identified sialyltransferases-related sequences.** 35 vertebrate and 27 invertebrate sequences were identified in the databases.

DNA GenBank/EBI	Vertebrates species	Subfamily	Predicted ORF size (amino acid)
AM422142	<i>G. aculeatus</i>	ST8Sia I	335
AM494543	<i>C. milii</i>	ST8Sia I	351
AM503578	<i>A. carolinensis</i>	ST8Sia I	>337
AM900683	<i>P. marinus</i>	ST8Sia I	>286
AM422134	<i>O. latipes</i>	ST8Sia II	372
AM422132	<i>C. familiaris</i>	ST8Sia II	332
AM422133	<i>B. taurus</i>	ST8Sia II	366
AM422139	<i>G. aculeatus</i>	ST8Sia II	375
AM503579	<i>A. carolinensis</i>	ST8Sia II	366
AJ715544	<i>S. tropicalis</i>	ST8Sia III	375
AM422140	<i>G. aculeatus</i>	ST8Sia III	374
AM422141	<i>G. aculeatus</i>	ST8Sia III-r	373
AM503580	<i>A. carolinensis</i>	ST8Sia III	381
AM419014	<i>S. tropicalis</i>	ST8Sia IV	359
AM419015	<i>R. norvegicus</i>	ST8Sia IV	455
AM503581	<i>A. carolinensis</i>	ST8Sia IV	360
AM900682	<i>P. marinus</i>	ST8Sia IV	>277
AM903381	<i>C. milii</i>	ST8Sia IV	301
AM287263	<i>D. rerio</i>	ST8Sia V	411
AM491803	<i>C. familiaris</i>	ST8Sia V	>363
AM491802	<i>M. mulatta</i>	ST8Sia V	376
AM422136	<i>S. tropicalis</i>	ST8Sia V	374
AM422135	<i>G. aculeatus</i>	ST8Sia V	379
AM494542	<i>C. milii</i>	ST8Sia V	372
AM503582	<i>A. carolinensis</i>	ST8Sia V	376
AM422137	<i>S. tropicalis</i>	ST8Sia VI	387
AM419017	<i>G. aculeatus</i>	ST8Sia VI	358
AM419016	<i>T. nigroviridis</i>	ST8Sia VI	337
AM422138	<i>O. latipes</i>	ST8Sia VI	358
AM503583	<i>A. carolinensis</i>	ST8Sia VI	>300
AM287257	<i>D. rerio A</i>	ST8Sia VIIA	358
AM287258	<i>D. rerio B</i>	ST8Sia VIIB	363
AM503584	<i>A. carolinensis A</i>	ST8Sia VIIA	>268
AM503585	<i>A. carolinensis B</i>	ST8Sia VIIB	>273
AM900684	<i>P. marinus</i>	ST8Sia VII	>275
DNA GenBank/EBI	Invertebrates species	Group	Predicted ORF size (amino acid)
EF126286	<i>S. purpuratus 1</i>	ST8Sia I/V/VI/VII	264
EF126287	<i>S. purpuratus 2</i>	ST8Sia I/V/VI/VII	323
EF126289	<i>S. purpuratus 4</i>	ST8Sia I/V/VI/VII	305
EF126290	<i>S. purpuratus 5</i>	ST8Sia I/V/VI/VII	352
EF126291	<i>S. purpuratus 6</i>	ST8Sia I/V/VI/VII	346
EF126293	<i>S. purpuratus 8</i>	ST8Sia I/V/VI/VII	304
EF134719	<i>S. purpuratus 9</i>	ST8Sia I/V/VI/VII	317
EF134720	<i>S. purpuratus 10</i>	ST8Sia I/V/VI/VII	323
EF156412	<i>B. floridae 4</i>	ST8Sia I/V/VI/VII	281
EF152419	<i>B. floridae 8</i>	ST8Sia I/V/VI/VII	267
EF152420	<i>B. floridae 9</i>	ST8Sia I/V/VI/VII	271
EF158036	<i>B. floridae 11</i>	ST8Sia I/V/VI/VII	291
EF126292	<i>S. purpuratus 7</i>	ST8Sia III/III-r	335
AM901543	<i>B. floridae 17</i>	ST8Sia III/III-r	292
AM901542	<i>B. floridae 12</i>	ST8Sia III/III-r	311
EF134720	<i>S. purpuratus 11</i>	ST8Sia EX	286
AF391289	<i>B. floridae 0</i>	ST8Sia EX	363
EF134722	<i>B. floridae 1</i>	ST8Sia EX	318
EF134723	<i>B. floridae 2</i>	ST8Sia EX	327
EF140743	<i>B. floridae 3</i>	ST8Sia EX	295
EF140744	<i>B. floridae 5</i>	ST8Sia EX	287
EF141188	<i>B. floridae 7</i>	ST8Sia EX	271
EF140745	<i>B. floridae 6</i>	ST8Sia II/IV	328
AM901544	<i>B. floridae 14</i>	ST8Sia II/IV	287
AM901545	<i>B. floridae 15</i>	ST8Sia II/IV	278
AM901546	<i>B. floridae 16</i>	ST8Sia II/IV	279
AM901547	<i>B. floridae 20</i>	ST8Sia II/IV	289