

Figure S1. Termini and TSDs of newly characterized families of *Academ* from the fungus *Puccinia coronata*. TSDs are colored in red. Positions of TEs are shown in parentheses. Up to 20 sequences are shown for each family.

Puccinia coronata

AcademH-1 PCor

PGCI01000065.1_[144956-151367]
GGACGCGACATTTTCGAACTTAACCCAAAGCCCTCGCTGCCGAGGAGGGGGCGCAGCGCCTCGCG//AGACCTCGGGGCTGCCCGGGGGCTCTCACTCAGAGGCTTTGTTAAGCTCGACATTTTCACGCTC
PGCI01000304.1_[2522-8929]
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PGCI01000703.1_[22681-29089]
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PGCI01000804.1_[40186-33807]
CGCGCGCTTTTGGCGAACTTAACCCAAAGCCCTCGCTGCCGAGGAGGGGGCGCAGCGCCTCGCG//AGACCTCGGGGCTGCCCGGGGGCTCTCACTCAGAGGCTTTGTTAAGCTCGGCTTTTGGAGGTTG
PGCI01001031.1_[6359-12770]
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AcademH-2 PCor

PGCI01000061.1_[42194-36049]
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PGCI01000266.1_[73642-79789]
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PGCI01000656.1_[41733-35594]
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AcademH-3 PCor

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PGCI01000242.1_[44725-38513]
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PGCI01000258.1_[101603-107817]
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PGCI01000481.1_[32706-24492]
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PGCI01000710.1_[91354-97548]
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AcademH-4 PCor

PGCI01000041.1_[362047-368041]
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PGCI01000077.1_[309954-294960]
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PGCI01000992.1_[46282-40286]
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PGCI01001013.1_[36272-42266]
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AcademH-5 PCor

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PGCI01000076.1_[50568-44173]
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PGCI01000889.1_[51199-44803]
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PGCI01000103.1_[36272-42266]

AcademH-6 PCor

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PGCI01000652.1_[33638-26674]
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AcademH-7 PCor

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PGCI01000233.1_[142080-135790]
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PGCI01000617.1_[100323-106629]
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AcademH-8 PCor

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PGCI01000779.1_[46486-39754]
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AcademH-9 PCor

PGCI01000237.1_[78845-82788]
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PGCI01001038.1_[15743-9062]
ATATGCGCGGCTTCAACTTAACCAAGCCCTTATCCCTGCTGTGCGCGCTTATGATGTGGTGA//CCTCTCTGAGACAGAGCCCTCGGGGCTCCTCAGGAGGCTTTGTTAAGCTCGTCCGCGATTGTCT

AcademH-10 PCor

PGCI01000025.1_[92364-98915]
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PGCI01001069.1_[20777-27328]
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AcademH-11 PCor

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PGCI01000759.1_[37404-30533]
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AcademH-12 PCor

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PGCI01000702.1_[82403-76228]
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AcademH-13 PCor

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PGCI01000009.1_[754354-766839]
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PGCI01000161.1_[28490-20378]
AAGGATACAGGCTGCTAAGCTTAACCAAGTCCCGCCGAGCCCGGGAGGACTTCAATGTATGTACA//GAGCGCTCCGCGGGGCTCCCCCGGACCTCCGTTCCAGTGGCTTTGTTAAGCTCGACAGGGCTGTACAG
PGCI01000672.1_[32690-39075]

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AcademH-14 PCor

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FGCI01001193.1 [13458-7363]
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AcademH-15 PCor

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AcademH-16 PCor

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FGCI01000923.1 [38223-45024]
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AcademH-17 PCor

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AcademH-N1 PCor

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FGCI01000035.1 [363059-363873]
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FGCI01000050.1 [304837-305651]
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FGCI01000094.1 [136872-137689]
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FGCI01000122.1 [30311-31124]
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FGCI01000185.1 [48388-49203]
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FGCI01000237.1 [17740-16927]
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FGCI01000290.1 [30319-29506]
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FGCI01000425.1 [22294-23095]
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FGCI01000521.1 [15283-16100]
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FGCI01000607.1 [129700-128825]
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FGCI01000620.1 [63524-64341]
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FGCI01000858.1 [19358-20159]
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FGCI01001141.1 [15327-16144]
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FGCI01001428.1 [5762-6561]
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AcademH-N2 PCor

FGCI01000029.1 [327719-328510]
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FGCI01000033.1 [48246-47454]
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FGCI01000046.1 [126632-127423]
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FGCI01000050.1 [222118-222909]
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FGCI01000059.1 [269133-269924]
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FGCI01000073.1 [176862-176088]
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FGCI01000076.1 [33876-34667]
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FGCI01000126.1 [80136-79345]
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FGCI01000131.1 [65969-67760]
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FGCI01000148.1 [110233-109442]
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FGCI01000235.1 [19272-18482]
TGCCCGCTCAGTCTAGCTTAACCCAATCCCTTGTCTCAGAGGGCCAGGTATTGCCTGGCGGCGCA//GAGCCCTCCGCGGGGTCGCCCGGACCCCTCGTTGAGTGGCTTGTAAAGCTTGTGTAATGGAGGAC
FGCI01000252.1 [41740-42517]
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FGCI01000408.1 [2412-1621]
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FGCI01000415.1 [44845-44054]
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FGCI01000446.1 [26598-26879]
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FGCI01000610.1 [92321-91547]
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FGCI01000677.1 [74422-73631]
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AcademH-N3 PCor

FGCI01000010.1 [658468-659179]
ACGGTGGGTGATCTAACTTAACACAAGTCCCGCCGACCCGGGAGGACTTGAATGTATGTACAC//GAGCGCTCCGCGGGGTCGCCCGGACCCCTCGTTGAGTGGCTTGTAAAGCTTGTGTAATGGAGGAC
FGCI01000011.1 [235103-234352]
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FGCI01000011.1 [38277-236118]
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FGCI01000024.1 [35771-36528]
CACTCACTTTGACACTAACTTAACACAAGTCCCGCCGACCCGGGAGGACTTGAATGTATGTACAC//GAGCGCTCCGCGGGGTCGCCCGGACCCCTCGTTGAGTGGCTTGTAAAGCTTGTGTAATGGAGGAC
FGCI01000067.1 [122865-123605]
CAGCACGGATGACCTAACTTAACACAAGTCCCGCCGACCCGGGAGGACTTGAATGTATGTACAC//GAGCGCTCCGCGGGGTCGCCCGGACCCCTCGTTGAGTGGCTTGTAAAGCTTGTGTAATGGAGGAC

PGCI01000134.1 [171100-171857]
CAGTAGCCACACTCTTAACCTTAACACAAAGTCCCTCCAATCGGAGGGCCCTGTAACCTGGCGGGCGCA//GAGCCCTCGGGCGGCTCCCCGAGCCCTCCGTTGAGAGGCTTAGTAGGCTAGCCAACTTGGGGT
PGCI01000201.1 [141089-141846]
CGGGCCCGCCACCCTAATCTTAACACAAAGTCCCTCCAATCGGAGGGCCCTGTAACCTGGCGGGCGCA//GAGCCCTCGGGCGGCTCCCCGAGCCCTCCGTTGAGAGGCTTTGTAAGCTAGCGCCACCAGGGCCG
PGCI01000234.1 [35308-36047]
ACCCCTTAATAGACTTAACCTTAACACAAAGTCCCTCCAATCGAGAGTCTGTAACCTGGCGGGCGCA//GAGCCCTCGGGCGGCTCCCCGAGCCCTCCATTGAGAGGCTTTGTAAGCTAGTAATAGCATGCAT
PGCI01000261.1 [47928-47189]
TGAAGGTAATCCCTTAATTAACACAAAGTCCCTCCAATCGGAGGGCCCTGTAACCTGGCGGGCGCA//GAGCCCTCGGGCGGCTCCCCGAGCCCTCCATTGATAGGCTTAGTAGGCTAGGTAATCCCGGGC
PGCI01000264.1 [74595-75341]
AACACCTCTCTGGCTTAACCTTAACACAAAGTCCCTCCAATCGGAGGGCCCTGTAACCTGGGTGGCGCA//GAGCCCTCGGGCGGCTCCCCGAGCCCTCCGTTGAGAGGCTTTGTAAGCTAGTCTCTGGCTCATCAT
PGCI01000400.1 [4509-3752]
ACATAGCTGGTCACTTAACCTTAACACAAAGTCCCTCCAATCGGAGGGCCCTGTAACCTGGCGGGCGCA//GAGCCCTCGGGCGGCTCCCCGAGCCCTCCATTGAGAGGCTTAGTAGGCTAGGCTGGTCAAGCATGT
PGCI01000610.1 [142435-141678]
GCCCGCTTAACACCTTAACCTTAACACAAAGTCCCTCCAATCGGAGGGCCCTGTAACCTGGCGGGCGCA//GAGCCCTCGGGCGGCTCCCCGAGCCCTCCGTTGAGAGGCTTTGTAAGCTAGTATCACCTGGGGC
PGCI01000623.1 [142074-142831]
CAGTAGCCACACTCTTAACCTTAACACAAAGTCCCTCCAATCGGAGGGCCCTGTAACCTGGCGGGCGCA//GAGCCCTCGGGCGGCTCCCCGAGCCCTCCGTTGAGAGGCTTAGTAGGCTAGCCAACTTGGGGT
PGCI01000644.1 [112313-113050]
ACCCCTAAGGCTTCTTAACCTTAACACAAAGTCCCTCCAATCGAGGGCCCTGTAACCTGGCGGGCGCA//GAGCCCTCGGGCGGCTCCCCGAGCCCTCCGTTGAGAGGCTTTGTAAGCTAGAAGGCTTCAGGCTA
PGCI01000676.1 [27972-73728]
AACACCTCTCTGGCTTAACCTTAACACAAAGTCCCTCCAATCGGAGGGCCCTGTAACCTGGGTGGCGCA//GAGCCCTCGGGCGGCTCCCCGAGCCCTCCGTTGAGAGGCTTTGTAAGCTAGTCTCTGGCTCATCAT
PGCI01000709.1 [18638-19377]
ACCCCTTAATAGACTTAACCTTAACACAAAGTCCCTCCAATCGAGAGTCTGTAACCTGGCGGGCGCA//GAGCCCTCGGGCGGCTCCCCGAGCCCTCCATTGAGAGGCTTTGTAAGCTAGTAATAGCATGCAT
PGCI01000891.1 [49119-49830]
ACGGGTAGGCTGATCTTAACCTTAACACAAAGTCCCTCCAATCGGAGGGCCCTGTAACCTGGGTGGCGCA//GAGCCCTCGGGCGGCTCCCCGAGCCCTCCGTTGAGAGGCTTTGTAAGCTAGAGGCTGATCATCTT

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PGCI01000017.1 [132485-133271]
AAATCTAAGAGGCTTAATTAACACAAAGTCCCTCTTCTGGGAGGAGCGGGAGCCCGAGGAGCGCC//AGTCCCTTACAATGGCCCTCCGGGCTCCCGAGGGGACTTAGTAAAGTTAGAGAGGTGTAATA
PGCI01000024.1 [329360-328576]
GAAGGTGCTTCTCTTAACCTTAACACAAAGTCCCTCTTCTGGGAGGAGCGGGAGCCCGGAGCGCC//AGTCCCTTACAAGGGGCTCCCGGCTCCCGAGGGGACTTAGTAAAGTTAGGCTTCTCTATCTCT
PGCI01000025.1 [62241-63013]
GACCGCAAGTATCTTAACCTTAACACAAAGTCCCTCTTCTGGGAGGAGCGGGAGCCCGAGGAGCGCT//GGATTAAAGTACAATGCTCCCTTACAAGTCTTGGAGGGACTTAGTAAAGTTAGAGTATCTGCAGGT
PGCI01000034.1 [143009-142215]
AAATAGCAGAAATCTCACTCAACACAAAGTCCCTCTTCTGGGAGGAGCTGGGAGCCCGGAGCGCC//AGTCCCTTACAAGGGGCTCCCGGCTCCCGAGGGGACTTAGTAAAGTTAGAGCAAAATGTTCTT
PGCI01000164.1 [184911-184123]
TACATACTCAAGTGGCTTAACCTTAACACAAAGTCCCTCTTCTGGGAGGAGCGGGAACTCTGATGAGCGCC//ATTACCTTACAAGGGGCTCCCGGCTCCCGAGGGGACTTAGTAAAGTTAGTTCAGTGGCTGCTT
PGCI01000187.1 [54115-54903]
AGTTGGGTTTCACTTAACCTTAACACAAAGTCCCTCTTCTGGGAGGAGCGGGAGCCCGAGGAGCGCC//AGTCCCTTACAAGGGGCTCCCGGCTCCCGAGGGGACTTAGTAAAGTTAGGGTTCACTGGATT
PGCI01000193.1 [53011-53807]
CTTAACAGTCCCTTAACCTTAACACAAAGTCCCTCTTCTGGGAGGAGCGGGAGCCCGAGGAGCGCC//TACAAGTCTACAAGGGGCTCCCGGCTCCCGAGGGGACTTAGTAAAGTTAGCACTCCCTGCTC
PGCI01000245.1 [58994-59679]
CCCAAGCCCCAAGCTTAACCTTAACACAAAGTCCCTCTTCTGGAGAGGAGTGGGAGCCCGAGGAGCGCT//AGTCCCTTACAAGGGGCTCCCGGCTCCCGAGGGGACTTAGTAAAGTTAGCACTAACCTGCC
PGCI01000716.1 [43724-42940]
GAAGGTGCTTCTCTTAACCTTAACACAAAGTCCCTCTTCTGGGAGGAGCGGGAGCCCGAGGAGCGCC//AGTCCCTTACAAGGGGCTCCCGGCTCCCGAGGGGACTTAGTAAAGTTAGGCTTCTCTATCTCT
PGCI01000728.1 [91832-92604]
GACCGCAAGTATCTTAACCTTAACACAAAGTCCCTCTTCTGGGAGGAGCGGGAGCCCGAGGAGCGCC//GGATTAAAGTACAATGCTCCCTTACAAGTCTGGAGGGGACTTAGTAAAGTTAGAGTATCTGCAGGT
PGCI01000730.1 [74417-75202]
CCCAAGCCCCAAGCTTAACCTTAACACAAAGTCCCTCTTCTGGAGAGGAGTGGGAGCCCGAGGAGCGCC//AGTCCCTTACAAGGGGCTCCCGGCTCCCGAGGGGACTTAGTAAAGTTAGGCTTAAGCACTGCC
PGCI01000938.1 [9277-10063]
ACTACCTGTAGAGGCTTAACCTTAACACAAAGTCCCTCTTCTGGGAGGAGCGGGAGCCCGGAGCGCC//AGTCCCTTACAAGGGGCTCCCGGCTCCCGAGGGGACTTAGTAAAGTTAGCTGTAGAGGTAGGTA
PGCI01000978.1 [7209-7996]
AGGTTGAAATTCAGCTTAACCTTAACACAAAGTCCCTCTTCTGGGAGGAGCGGGAGCCCGAGGAGCGCC//AGTCCCTTACAATGGCCCTCCGGGCTCCCGAGGGGACTTAGTAAAGTTAGAGAGGTGTAATA
PGCI01001353.1 [3096-3892]
CTTAACAGTCCCTTCTTAACCTTAACACAAAGTCCCTCTTCTGGGAGGAGCGGGAGCCCGAGGAGCGCC//TACAAGTCTACAAGGGGCTCCCGGCTCCCGAGGGGACTTAGTAAAGTTAGCACTCCCTGCTC

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PGCI01000006.1 [119690-119601]
GTACAATAGACTTCTTAACCTTAACACAAAGTCCCTCTTCTGGCGGAGCTTGAGTTGGCGGGTGGCAAG//GCTTCCACCCGCAAACTCAAGCTCCCGCATAGGGAGGACTTAGTAAAGTTAGTAGACTTGGGGT
PGCI01000007.1 [570967-570334]
ATACCGTCAATTGAGCTTAACCTTAACACAAAGTCCCTCTTCTGGCGGAGCTTGAGTTGGCGGGTGGCAAG//CTTGGCACCCGCAAACTCAAGCTCCCGCATAGGGAGGACTTAGTAAAGTTAGTCAATTGAGTTCTAT
PGCI01000111.1 [49333-49966]
AGGTTGAAATTCAGCTTAACCTTAACACAAAGTCCCTCTTCTGGCGGAGCTTGAGTTGGTGGTGGCGAAG//CTTCCGACCCGCAAACTCAAGCTCTTGCATAGGGAGGACTTAGTAAAGTTAGAAAATTCAGGTGCTC
PGCI01000926.1 [74579-73941]
GTACAATAGACTTCTTAACCTTAACACAAAGTCCCTCTTCTGGCGGAGCTTGAGTTGGCGGGTGGCAAG//GCTTCCACCCGCAAACTCAAGCTCCCGCATAGGGAGGACTTAGTAAAGTTAGTAGACTTGGGGT
PGCI01000982.1 [20026-20659]
AGGTTGAAATTCAGCTTAACCTTAACACAAAGTCCCTCTTCTGGCGGAGCTTGAGTTGGTGGTGGCGAAG//CTTCCGACCCGCAAACTCAAGCTCTTGCATAGGGAGGACTTAGTAAAGTTAGAAAATTCAGGTGCTC
PGCI01001089.1 [16449-15816]
ATACCGTCAATTGAGCTTAACCTTAACACAAAGTCCCTCTTCTGGCGGAGCTTGAGTTGGCGGGTGGCAAG//CTTGGCACCCGCAAACTCAAGCTCCCGCATAGGGAGGACTTAGTAAAGTTAGTCAATTGAGTTCTAT

AcademH-N6 PCo

PGCI01000008.1 [89787-89027]
GGGGGGGCTACCGCTTAACCTTAACACAAAGTCCCAACCGGGGGGGGGGGGGGGGCTAGCGCCCTCCTG//GCGCTCCGCGGGGCTCCCGGAGCCCTCCGTTGCGAGGCTTAGTAAAGTTAGGACACGCCGACCA
PGCI01000025.1 [4794-3952]
TGGCTGTTCAGACTTAACCTTAACACAAAGTCCCGACCGGGGGGGGGGGGGGGGCTAGCGCCCTCCCGCAG//GCGCTCCGCGGGGCTCCCGGAGTTCGTTGCGAGGCTTAGTAAAGTTAGTTCAGACGACCC
PGCI01000055.1 [13765-13011]
CACATGTTGCTATCTTAACCTTAACACAAAGTCCCAACCGGGGGGGGGGGGGGGGCTAGCGCCCTCCCGCAG//AGCGCTTCGCGAGGCTCCCGGAGCCCTCCGTTGCGAGGCTTAGTAAAGTTAGTTCATCAATGAA
PGCI01000055.1 [40022-39267]
ACGACCACTCAACCTTAACCTTAACACAAAGTCCCGACCGGGGGGGGGGGGGGGGCTAGCGCTCCCTCCTGAG//GCGCTCCGCGGGGCTCCCGGAGCCCTCCGTTGCGAGGCTTAGTAAAGTTAGTAACTCAACGATGCA
PGCI01000064.1 [321075-321817]
TTCCTGCGCGGGGCTTAACCTTAACACAAAGTCCCGACTGCGGGGGGGGGGGGGGGGCTAGCGCCCTCCCGCAG//CTCCTCCGCGGGGCTCCCGGAGCCCTCCGTTGCGAGGCTTAGTAAAGTTAGCCCGCGCATCTG
PGCI01000065.1 [53206-53968]
TTCCTGCGCGGGGCTTAACCTTAACACAAAGTCCCGACTGCGGGGGGGGGGGGGGGGCTAGCGCCCTCCCGCAG//GCGCTCCGCGGGGCTCCCGGAGCCCTCCGTTGCGAGGCTTAGTAAAGTTAGCCCGCGCATCTG
PGCI01000084.1 [286073-285316]
GGGGGGGCGCTACCGCTTAACCTTAACACAAAGTCCCAACCGGGGGGGGGGGGGGGGCTAGCGCCCTCCCGCAG//GCGCTCCGCGGGGCTCCCGGAGCCCTCCGTTGCGAGGCTTAGTAAAGTTAGGACACGCCGACCA
PGCI01000198.1 [21858-21109]
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PGCI01000590.1 [13595-12841]
CACATGTTGCTATCTTAACCTTAACACAAAGTCCCAACCGGGGGGGGGGGGGGGGCTAGCGCCCTCCCGCAG//GCGCTTCGCGAGGCTCCCGGAGCCCTCCGTTGCGAGGCTTAGTAAAGTTAGTTCATCAATGAA
PGCI01000645.1 [2856-2098]
ACGACCACTCAAGCTTAACCTTAACACAAAGTCCCAACCGGGGGGGGGGGGGGGGCTAGCGCTCCCTCCTG//GCGCTCCGCGGGGCTCCCGGAGCCCTCCGTTGCGAGGCTTAGTAAAGTTAGTAACTCAACGATGCA
PGCI01000728.1 [2079-1327]
TGGCTGTTCAGACTTAACCTTAACACAAAGTCCCGACCGGGGGGGGGGGGGGGGCTAGCGCCCTCCCGCAG//GCGCTCCGCGGGGCTCCCGGAGTTCGTTGCGAGGCTTAGTAAAGTTAGTTCAGACGACCC

AcademH-N7 PCo

PGCI01000005.1 [94293-95063]
CACCCAATCAGTCAAGCTTAACCTTAACACAAAGTCCCTATCTCTTCTGGCGGGGCGAGTTTGGCGGGTGC//CCGAGACTCCCAACAGTCCCGGCTTCCACCAAGAGGCTTAGTAAAGTTAGTATCAAGTGAAGTC
PGCI01000005.1 [143498-144264]
ATTAGCATATAAGCTCAACTTAACCTTAACACAAAGTCCCTATCTCTTCTGGCGGGGCGAGTTTGGCTGGTGC//CCGAGACTCCCAACAGTCCCGGCTTCTCACCAAGAGGCTTAGTAAAGTTAGTATAAGCTGAAGTC
PGCI01000023.1 [262193-262964]
AATAGACTTCTGCTCAAGCTTAACCTTAACACAAAGTCCCTATCTCTTCTGGCGGGGCGAGTTTGGCTGGTGC//CCGAGACTCCCAACAGTCCCGGCTTCTCACCAAGAGGCTTAGTAAAGTTAGTTCGTTGGTGAATA
PGCI01000031.1 [277705-278475]
TGGCTGTTCAGACTCAAGCTTAACCTTAACACAAAGTCCCTATCTCTTCTGGCGGGGCGAGTTTGGCTGGTGC//CCGAGACTCCCAACAGTCCCGGCTTCTCACCAAGAGGCTTAGTAAAGTTAGTAAAGTGCATATG
PGCI01000060.1 [19124-19891]
CTTATCTCTGATTCGACTTAACCTTAACACAAAGTCCCTATCTCTTCTGGCGGGGCGAGTTTGGCTGGTGC//CCGAGACTCCCAACAGTCCCGGCTTCTCACCAAGAGGCTTAGTAAAGTTAGTAAAGTGCATATG
PGCI01000886.1 [15660-16426]
ATTAGCATATAAGCTCAACTTAACCTTAACACAAAGTCCCTATCTCTTCTGGCGGGGCGAGTTTGGCTGGTGC//CCGAGACTCCCAACAGTCCCGGCTTCTCACCAAGAGGCTTAGTAAAGTTAGTAAAGTGCATATG
PGCI01000912.1 [28274-29042]
CTTATCTCTGATTCGACTTAACCTTAACACAAAGTCCCTATCTCTTCTGGCGGGGCGAGTTTGGCTGGTGC//CCGAGACTCCCAACAGTCCCGGCTTCTCACCAAGAGGCTTAGTAAAGTTAGTAAAGTGCATATG
CTTATCTCTGATTCGACTTAACCTTAACACAAAGTCCCTATCTCTTCTGGCGGGGCGAGTTTGGCTGGTGC//CCGAGACTCCCAACAGTCCCGGCTTCTCACCAAGAGGCTTAGTAAAGTTAGTAAAGTGCATATG

AcademH-N8 PCo

PGCI01000002.1 [93364-93493]
CATACGCACTAATCGACTTAACCTTAACACAAAGTCCCTATCTCTTCTGGCGGGCTTGTAATGCGGTGTA//TTGTGAGACACAGAGACCTCCGGGGCTCTCACCGAGAGGCTTAGTAAAGTTAGTAAAGTGCATATG
PGCI01000016.1 [12529-12389]
ACTTAGGGCTAACCGACTTAACCTTAACACAAAGTCCCTATCTCTTCTGGCGGGCTTGCAATGCGGTGTA//GCAGAGGGACCTCCGCGCTCCGGGGCTCTCACCGAGAGGCTTAGTAAAGTTAGTAAAGTGCATATG
PGCI01000018.1 [37712-377574]
GACCTTGCCTATCGACTTAACCTTAACACAAAGTCCCTATCTCTTCTGGCGGGGCGAGTTTGGCTGGTGC//CTGTGAGACACAGAGACCTCCGGGGCTCTCACCGAGAGGCTTAGTAAAGTTAGTAAAGTGCATATG
PGCI01000022.1 [521371-521508]
ATGCTGGCGGCTACGACTTAACCTTAACACAAAGTCCCTATCTCTTCTGGCGGGCTTGCAATGCGGTGTA//ACCGAGACACAGAGACCTCCGGGGCTCTCACCAAGAGGCTTAGTAAAGTTAGTAAAGTGCATATG
PGCI01000103.1 [15672-175819]
AACCCACTGAGCTCAACTTAACCTTAACACAAAGTCCCTATCTCTTCTGGCGGGCTTGCAATGCGGTGTA//GGTGAGACACAGAGACCTCCGGGGCTCTCACCGAGAGGCTTAGTAAAGTTAGTAAAGTGCATATG

PGCI01000106.1_[86774-86923]
TGACGGGAATAATACGAACTTAACGCAAGCCCTATTCCTGCTGTGCGCGGCTTGCAATGCGGTGTGA//GGCGAGGACAGAGACCTCGGGGCTCTCACCGAGAGCGCTTTGTTAGGCTCGGAATAATCAATTA
PGCI01000295.1_[97279-97146]
CTGTGGCTCCAAACGAACTTAATGCAAGCCCTATTCCTGCTGTGCGCGGCTTGCAATGCGGTGTGA//CTGTGAGACACAGAGACCTCGGGGCTCTCACCGAGAGGCTTTGTTAGGCTCGGCTCGAAACAGCC
PGCI01000609.1_[60613-60742]
CATACCGAGTAATACGAACTTAACGCAAGCCCTATTCCTGCTGTGCGCGGCTTGCAATGCGGTGTGA//TTGTGAGACACAGAGACCTCGGGGCTCTCACCGAGAGGCTTTGTCAGGCTCGGAGTAATCAATCG
PGCI01000754.1_[13360-13509]
TGACGGGAATAATACGAACTTAACGCAAGCCCTATTCCTGCTGTGCGCGGCTTGCAATGCGGTGTGA//GGCGAGGACAGAGACCTCGGGGCTCTCACCGAGAGGCTTTGTTAGGCTCGGAATAATCAATTA
PGCI01000913.1_[32380-32247]
CTGTGGCTCCAAACGAACTTAATGCAAGCCCTATTCCTGCTGTGCGCGGCTTGCAATGCGGTGTGA//CTGTGAGACACAGAGACCTCGGGGCTCTCACCGAGAGGCTTTGTTAGGCTCGGCTCGAAACAGCC

AcademH-N9 PCor

PGCI01000022.1_[370013-369164]
CACACCTGTAGTACGAACTTAACGCAAGCCCTATTCCTGCTGTGCGCGGCTTGCAATGCGGTGTGA//CTGTGAGACACAGAGACCTCGGGGCTCACACCGAGAGGCTTTGTTAGGCTCGGTAGTACATTTC
PGCI01000072.1_[286860-287696]
GTGACCAAGTATTCGAACTTAACGCAAGCCCTATTCCTGCTGTGCGCGGCTTGCAATGCGGTGTGA//TCTGTGATACAGAGACCTCGGGGCTCTCACCGAGAGGCTTTGTTAGGCTCGGTATTTCTGATGG
PGCI01000608.1_[127205-126356]
CACACCTGTAGTACGAACTTAACGCAAGCCCTATTCCTGCTGTGCGCGGCTTGCAATGCGGTGTGA//CTGTGAGACACAGAGACCTCGGGGCTCACACCGAGAGGCTTTGTTAGGCTCGGTAGTACATTTC
PGCI01000862.1_[39982-40830]
TGACCAAGTATTCGAACTTAACGCAAGCCCTATTCCTGCTGTGCGCGGCTTGCAATGCGGTGTGA//CTGTGATACAGAGACCTCGGGGCTCTCACCGAGAGGCTTTGTTAGGCTCGGTATTTCTGATGG

AcademH-N10 PCor

PGCI01000067.1_[163440-165620]
AACAGGATTCATACCCTAACTTAACGCAAGCCCTATTCCTGTAACCTGCTGCGGGTCCAAAGGGCTCCGAAAG//CCTTGAGGCTTTGGAGCCACAGAAATTAACAGGGGACGCTTTGTTAGGCTAGTATCATACCCTGTT

AcademH-N11 PCor

PGCI01000010.1_[26631-25284]
TACATGGACTGGGACTAATTTGACACAAAGTCTTGGGGGCTGCTGCGACTGCCCTTGCGGTCCCC//GCCTTTGTTGGGGTCCCCGGGACCTCGTTGCAAGGCTTATGTTAAGCTAGGACTGGGGAAGGGAG
PGCI01000012.1_[125430-124059]
TCACCTGGTCTAGTCTAATTTGACACAAAGTCTTGGGGGCTGCTGCGCTGTGTGACTGCGCTTGG//GCCTCCGCGGGGTCCCCGGGACCTCGTTGCGAGGCTTATGTTAAGCTAGGGTCTAGTGGTGTG
PGCI01000030.1_[264254-265627]
TCCAATCATGCAACTTAACCTGACACAAAGTCTTGGGGGCTGCTGCGCTGTGTGACTGCGCTTGG//GCCTCCGCGGGGTCCCCGGGACCTCGTTGCGAGGCTTATGTTAAGCTAGCATGCAACTGTACAG
PGCI01000046.1_[295360-296725]
GACAAGCAGTGGATCTAATTTGACACAAAGTCTTGGGGGCTGCTGCGCTGTGTGACTGCGCTTGA//GCCTCCGCGGGGTCCCCGGGACCTCGTTGCGAGGCTTATGTTAAGCTAGCAGTGGATCCAACGG
PGCI01000628.1_[100257-98885]
TCACCTGGTCTAGTCTAATTTGACACAAAGTCTTGGGGGCTGCTGCGCTGTGTGACTGCGCTTACG//GCCTCCGCGGGGTCCCCGGGACCTCGTTGCGAGGCTTATGTTAAGCTAGGGTCTAGTGGTGTG
PGCI01000815.1_[12455-13820]
GACAAGCAGTGGATCTAATTTGATCAAGTCTTGGGGGCTGCTGCGCTGTGTGACTGCGCTTGG//GCCTCCGCGGGGTCCCCGGGACCTCGTTGCGAGGCTTATGTTAAGCTAGCAGTGGATCCAACGG

AcademH-N12 PCor

PGCI01000106.1_[172665-173449]
TAATGTGGTCCGCTAGCTTATCACAAGCCTTGGTCTGCGCTCAGCTGGCCCCGCGGGCGCGGG//CGGGGACGCTGGGCCCTTTGGCCGCTCCGCTTGAAGGCTTAGTATGCTGGTCTCGCTATGTA
PGCI01000191.1_[1953-2750]
TTTATATATCTCTCCTAGCTTATCACAAGCCTTGGTCTGCGCTCAGCGGACCGCTGGGGCGCGGG//GTGGGACGCGGGCCCTTTGGCGCTCCAAATCAAGGCTTAGTATGCTGATATCTCATGTTG

AcademH-N13 PCor

PGCI01000009.1_[611668-608324]
ATACTATACACACCCGAACTTAACGCAAGCCCTTTCCCTGCTGTGAGCGGCTTGCAATGCGGTATGG//GACCTCGAGGCTGCCCCCGAGGGCTCTCACTCAAGAGGCTTTGTTAAGCTTGTACACACCCACCACC
PGCI01000643.1_[56889-53550]
ATACTATACACACCCGAACTTAACGCAAGCCCTTTCCCTGCTGTGAGCGGCTTGCAATGCGGTATGG//GACCTCGAGGCTGCCCCCGAGGGCTCTCACTCAAGAGGCTTTGTTAAGCTTGTACACACCCACCACC

Figure S2. Termini and TSDs of newly characterized families of *Academ* from two animal species, *Crassostrea virginica* and *Acropora digitifera*. TSDs are colored in red. Positions of TEs are shown in parentheses. Up to 10 sequences are shown for each family.

Crassostrea virginica (Eastern oyster)

AcademH-1 CVI

CM008241.1 [12691601-12682832]
GTTGCTGTAACGACCAATCTAATAAATAGCTGTTTGTATCCGCTACCGCTATTCAACATCTAAACA//GTTTAGATGTTTGAATAGCGGTAGCGGATCAAAACAGCTAAATTTAATTAGATTGTAACGACCAAAAGG
CM008242.1 [46429846-46438629]
CGTTTGACAGGAGCCAACTAATAAATAGCTGTTTGTATCCGCTACCGCTATTCAACATCTAAACA//GTTTAGATGTTTGAATAGCGGTAGCGGATCAAAACAGCTAAATTTAATTAGATTGACAGGAGCTATCAC

AcademH-2 CVI

CM008246.1 [19543111-19534916]
AATAATCCATTCATACAATCTGATTAATAATCAGCTGTTCAATATACGCTACCCTATGAACATCTGAAAC//GTTTCAGATGTTTATAGCGGTAGCGTATATTGAACAGCTGATTTAATCAGATTGCCATTCATATACAT
CM008246.1 [29069771-29061660]
TTTCAACCAACTTGCATCTGATTAATAATCAGCTGTTTAAATATACGCTACCCTATGAACATCTGAAAC//GTTTCAGATGTTTATAGCGGTAGCGTATATTGAACAGCTGATTTAATCAGATTGCCAACTTGAACAAA
CM008248.1 [5687448-5695594]
GGCGTCAATTTTATCAATCTGATTAATAATCAGCTGTTCAATATACGCTACCCTATGAACATCTGAAAC//GTTTCAGATGTTTATAGCGGTAGCGTATATTGAACAGCTGATTTAATCAGATTGCAATTTATGTGCTG

AcademH-2N1 CVI

CM008241.1 [231971-232053]
TTGACTGCGTCACTGCAATCTGATTAATAATCAGCTGTTCAATATACGCTACCCTATGAAC-----GGTAGCGTATATTGAACAGCTGATTTAATCAGATTGCCATTTAGTGTAGT
CM008241.1 [9152003-9152089]
ATATTAAGCACATGCCAATTTGATTAATAATCACTGTTCAATATACGCTACCCTATGAAC-----GACGCGTAGCGTATATTGAATAGCTGATTTAATCAGATTGTCACATGCAAAATTT
CM008241.1 [28809995-28809911]
CTGCCGCCAAATCTCAATCTGATTAATAATCAGCTGTTCAATATACGCTACCCTATG-----ATAGCGGTAGCGTATATTGAACAGCTGATTTAATCAGATTGCCAAATCTCTATG
CM008241.1 [36739039-36738952]
AAATAATTAACACACCAATCTGATTAATAATCAGCTGTTCAATATACGCTACCCTATG-----TTCAATAGAGGTAGCGTACATTGAACAGCTGATTTAATAGATTGTTTACAACACACGCT
CM008241.1 [39148041-39148123]
TAACAAGAAATGTTCAATCTGATTAATAATCAGCTGTTCAATATACGCTACTGCTATG-----AGCGGTAGCGTATATTGAACAGCTGATTTAATCAGATTGAAAATGTTGTGCTCA
CM008241.1 [55478487-55478422]
AAGGTCTGCTTAGCTCAATCTGATTAATAATCAGCTGTTCAATATACGCTACCCTATGAAC-----AGCTGATTTAATCAGATTGCCCTTAGCTCTCTAT
CM008241.1 [64356095-64356035]
AGATAATCTTAAACCAATCTGATTAATAATCAGCTGTTCA-----GGTAGCGTATATTGAACAGCTGATTTAATCAGATTGAATCTTTAATCTTAC
CM008242.1 [8682655-8682580]
AACTGGCTCTTCAATCTGATTAATAATCAGCTGTTCAATATACGCTACCCTG-----GGTAGCGTATATTGAACAGCTGATTTAATCAGATTGCCCTTTTCAAAA
CM008242.1 [19842042-19842124]
CAACTCGCTGCTCAATCTGATTAATAATCAGCTGTTCAATATACGCTACCCTATGAACA-----GTAGCGTATATTGAACAGCTGATTTAATCAGATTGCCCTGTTGAACGG
CM008242.1 [21637666-21637579]
AAGTCTAATTCCTCAATCTGATTAATAATCAGCTGTTCAATATACGCTACCCTATGTTCA-----CAGCGGTAGCGTATATTGAACAGCTGATTTAATCAGATTGTTTTGCCTGATATT

AcademH-3 CVI

CM008243.1 [16133205-16124198]
AAACCACTGGCAGCAGCTGATTAATAATCAACCCCTCTCTTACACTCGTGGGGTCTGACAGCC//TGCTGTGACAGCCCGCAGGAGTAAAGGAGAGGGGGTGGTTAATCAGACTGATGCCATGAAAATA
CM008243.1 [62290150-62281143]
TGGATAACCCGTTCCAGCTGATTAATAATCAACCCCTCTCTTACACTCGTGGGGTCTGACAGCC//TGCTGTGACAGCCCGCAGGAGTAAAGGAGAGGGGGTGGTTAATCAGACTGACCCGTTCAATCT
CM008244.1 [4348948-4357953]
ACAAACCCAGCAGCAGCTGATTAATAATCAACCCCTCTCTTACACTCGTGGGGTCTGACAGCC//TGCTGTGACAGCCCGCAGGAGTAAAGGAGAGGGGGTGGTTAATCAGACTGCAAAAACCAACCG
CM008245.1 [7261975-7270980]
TATGAATAATTTGCTGATCTGATTAATAATCAACCCCTCTCTTACACTCGTGGGGTCTGACAGCC//TGCTGTGACAGCCCGCAGGAGTAAAGGAGAGGGGGTGGTTAATCAGACTGAAATTTGTTTACTG
CM008248.1 [28616690-28607715]
CCATTAATGAGACTCAGCTGATTAATAATCAACCCCTCTCTTACACTCGTGGGGTCTGACAGCC//TGCTGTGACAGCCCGCAGGAGTAAAGGAGAGGGGGTGGTTAATCAGACTGATGAGACTATACTG

AcademH-4 CVI

CM008246.1 [4875927-48804536]
ATATCTGTGATTTGCAATCTGATTAATAATCAGCTCCTTTGTTCCGCTCAAGTACATCGCTACACAAGGA//TCCTTGTGTAGCGATGACTTGAACGGAAACAAGGATCTGATTTAATCAGATTGTTGATTTGATTCG
CM008249.1 [65331300-65322678]
AGATCAATTTCTAAACCAATCTGATTAATAATCAGCTCCTTTGTTCCGCTCAAGTACATCGCTACACAAGGA//TCCTTGTGTAGCGATGACTTGAACGGAAACAAGGATCTGATTTAATCAGATTGATTTCTTAAAGACT
CM008249.1 [103761947-103753327]
GGTTTGAGAGTACCAATCTGATTAATAATCAGCTCCTTTGTTCCGCTCAAGTACATCGCTACACAAGGA//TCCTTGTGTAGCGATGACTTGAACGGAAACAAGGATCTGATTTAATCAGATTGAGAGTACGTCATT

AcademH-5 CVI

CM008244.1 [41250266-41281161]
GTGTCAGTGGCAGTCAATCTAATAAATAGATTTAGATCCGCTCGCACTCTCTACATAACATC//GATGTTAGTGTAGAGATGCGAGCGGATTAACATCTAATTTAATTAGATTGTTCCGATGTTTAT
CM008244.1 [54752784-54761917]
GCTTTAATTTAGCCCAATCTAATAAATAGATTTAGATCCGCTCGCACTCTCTACATAACATC//GATGTTAGTGTAGAGATGCGAGCGGATTAACATCTAATTTAATTAGATTGATTTAGCCGCTG
CM008247.1 [24068601-24077721]
AGGCATAGATCAGCAATCTAATAAATAGATTTAGATCCGCTCGCACTCTCTACATAACATC//GATGTTAGTGTAGAGATGCGAGCGGATTAACATCTAATTTAATTAGATTGAGATCAGACAACCA

AcademH-6 CVI

CM008241.1 [17057572-17064928]
TTTFCATCTCAGCAACCTGCGCAACCCAGGGATTTCTATCCGCTACACTTCTTTCATCCGTTGGGAG//CTCCACGGGATGAAAGAGTGTAGCGGATGAAATCCCGTGGGTTCCAGCATGCTACAAACCTACAT
CM008241.1 [40909671-4092326]
GTTTGGCTATATACATCTGATTAATAATCAGCTGTTTCAATCTGCTCTGTTGTTGTTGTTGCTG//CGAGCAGCAAAAACAAATGAGAGCGAGATGAAAGGGCTAATTTAATTAGATTGTTAGGTTGATTTAAT
CM008245.1 [29899886-29907233]
ATGCGTGTAAATCTCATCTGATTAATAATCAGCTGTTTCAATCTGCTCTGTTGTTGTTGTTGCTG//CTCCACGGGATGAAAGAGTGTAGCGGATGAAATCCCGTGGGTTCCAGCATGATTAATCTCAATTT
CM008245.1 [57710992-57718347]
ACTCCAGAGATGATCAGCTGATTAATAATCAGCTGTTTCAATCTGCTCTGTTGTTGTTGTTGCTG//CTCCACGGGATGAAAGAGTGTAGCGGATGAAATCCCGTGGGTTCCAGCATGAGAGTGTAAATTT

AcademH-7 CVI

CM008249.1 [21478531-21468732]
CAGAGCTTTTCTCATCTAATAAATAGCTGTTTGTATCCGCTACCTCTGCTGTTGTTGTTGCTGCTG//CGAGCAGCAAAAACAAACGAGAGCGAGATGAAAGGGCTAATTTAATTAGATTGTTTCTTGAATCC
CM008249.1 [27484947-27495031]
TCATACAGCAAGACCAATCTAATAAATAGCTGTTTGTATCCGCTACCTCTGCTGTTGTTGTTGCTGCTG//GAGCGCAAAAACAAACGAGAGCGAGATGAAAGGGCTAATTTAATTAGATTGAGCAAGACTTACCT

AcademH-7N1 CVI

CM008241.1 [7846058-7845724]
CTCAGATTGCTGATCAATCTAATAAATAGCTGTTTGTATCCGCTACCTCTGCTGTTGTTGTTGCTGCTG//AGAGCAGCAAAAACAAATGAGAGCGAGATGAAAGGGCTAATTTAATTAGATTGTTGCTGATCTACC
CM008241.1 [8647621-8647974]
TGCTGTAAAGGATCAATCTAATAAATAGCTGTTTGTATCCGCTACCTCTGCTGTTGTTGTTGTTGCTG//CGAGCAGCAAAAACAAATGAGAGCGAGATGAAAGGGCTAATTTAATTAGATTGTTAAGGTTGATTTAAT
CM008241.1 [8699381-8699733]
GCTTGGTAGCGCAATCTAATAAATAGCTGTTTGTATCCGCTACCTCTGCTGTTGTTGTTGCTGCTG//CGAGCAGCAAAAACAAATGAGAGCGAGATGAAAGGGCTAATTTAATTAGATTGTTAGGACAGAAAGTT
CM008241.1 [10641987-10642336]
TATCAAGCTTCACTCAATCTAATAAATAGCTGTTTGTATCCGCTACCTCTGCTGTTGTTGTTGCTGCTG//ACGAGCAGCAAAAACAAACGAGAGCGAGATGAAAGGGCTAATTTAATTAGATTGTTCTACATATATTC
CM008241.1 [11382732-11383083]
TGATATGCAATTTAGCAATCTAATAAATAGCTGTTTGTATCCGCTACCTCTGCTGTTGTTGTTGCTGCTG//CGAGCAGCAAAAACAAATGAGAGCGAGATGAAAGGGCTAATTTAATTAGATTGTTGATTTAGTTTCA
CM008241.1 [12580289-12579936]
ACTTGAATGATATCAATCTAATAAATAGCTGTTTGTATCCGCTACCTCTGCTGTTGTTGTTGCTGCTG//CGAGCAGCAAAAACAAACGAGAGCGAGATGAAAGGGCTAATTTAATTAGATTGAAATGATATCTAAT
CM008241.1 [13098994-13098645]
TTTGTGTAATGGATCAATCTAATAAATAGCTGTTTGTATCCGCTACCTCTGCTGTTGTTGTTGCTGCTG//TGAGCGCAAAAACAAACGAGAGCGAGATGAAAGGGCTACTTTAATTAGATTGTTAATGGATTAGACA
CM008241.1 [13863664-13863998]
CTCAGATTGCTGATCAATCTAATAAATAGCTGTTTGTATCCGCTACCTCTGCTGTTGTTGTTGCTGCTG//CGAGCAGCAAAAACAAATGAGAGCGAGATGAAAGGGCTAATTTAATTAGATTGTTGCTGATCTACC
CM008241.1 [16765832-16766156]
CAACAAGAGATGATCAATCTAATAAATAGCTGTTTGTATCCGCTACCTCTGCTGTTGTTGTTGCTGCTG//GTTAGATCCTTCCAGCAGCAAAAACGAGAGCGAGATGAAAGGGCTAATTTAATTAGATTGAGATGAAGCTACCA
CM008241.1 [18327714-18327363]
ATGAGCTATATAATCAATCTAATAAATAGCTGTTTGTATCCGCTACCTCTGCTGTTGTTGTTGCTGCTG//CGAGCAGCAAAAACAAACGAGAGCGAGATGAAAGGGCTAATTTAATTAGATTGTTAATAATATCTG

AcademH-8 CVI

CM008249.1 [53828951-53822030]
GAGTTTACCTAATCTCATCTGGAACCCAGGGTGTATGCTGCTGCTCTCTCTCCATCACCCGTTGG//CCACGGGTGATGAAAGAGGAAAGCGTAATCAACCGTGGGTTCCAGCATGACTAATCTGCTCA

AcademH-9 CVI

CM008246.1 [49451734-49440680]
TTGGGTGTTTCAACAGCTGCTGATAAAATCAAACCTCTCACTGCTCCCGTTTATTGATATGTCGCGCG//CGCGGCACATATCAATAAAGCGGAGCAAGTGAAGAGTTGATTTTAAATAGACTGTTTCAACGCACCT
CM008249.1 [19511525-19522267]
CTTTCCATGAATATCAGCTGCTGATAAAATCAAACCTCTCACTGCTCCCGTTTATTGATATGTCGCGCG//CGCGGCACATATCAATAAAGCGGAGCAAGTGAAGAGTTGATTTTAAATAGACTGTTTCAACGCACCT

AcademH-N1 Cvi

CM008241.1 [11804564-11804878]
AGTGCACAAATATGCGCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//GTTATCAGATCCTCTATCGGATAGCGTAAATAGAGGCTGACTTTAGTACAGATTGAAATATAGTCTGAA
CM008241.1 [14314553-14314931]
CCTTTATAGCTTGCCTCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//GTTATCAGATCCTCTATCGGATAGCGTAAATAGAGGCTGACTTTAGTACAGATTGAGCTTCTTTATGTTT
CM008241.1 [17752590-17753000]
ATCATATCTTCTTTAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//GTTATCAGATCCTCTATCGGATAGCGTAAATAGAGGCTGACTTTAGTACAGATTGAGCTTCTTTAATAT
CM008241.1 [22360873-22361285]
ATTGAGGACATGCCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//GTTATCAGATCCTCTATCGGATAGCGTAAATAGAGGCTGACTTTAGTACAGATTGAGCTTCTTTAATAT
CM008241.1 [24554982-24554572]
CAAAGGAAACATCATCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//GTTATCAGATCCTCTATCGGATAGCGTAAATAGAGGCTGACTTTAGTACAGATTGAAACATCATCAGTTT
CM008241.1 [28823911-28824265]
ACACTGAGTGTGTCATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//GTTATCAGATCCTCTATCGGATAGCGTAAATAGAGGCTGACTTTAGTACAGATTGAGCTTCTTTAATAT
CM008241.1 [29432130-29431813]
CTTCCCTTTGCTGCGCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//GTTATCAGATCCTCTATCGGATAGCGTAAATAGAGGCTGACTTTAGTACAGATTGAACTGTTGCCGACAG
CM008241.1 [34364572-34364885]
ACAAGGATATGACTCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//GGGAGTTATCAGATCCTCTAAATCTGTAATAGAGGCTGACTTTAGTACAGATTGAAAGTACTCGGTA
CM008241.1 [40871597-40871196]
GTGAGGGGTGACTCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//GTTATCAGATCCTCTATCGGATAGCGTAAATAGAGGCTGACTTTAGTACAGATTGAGGATGACTGCCAT
CM008241.1 [43263482-43263084]
ATTACAGAAATCAACAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//GTAATGGGAGTTATCAGATCCTCTATGATAGCGTCTGACTTTAGTACAGATTGAGAAATCAATATG

AcademH-N2 Cvi

CM008241.1 [3168518-3168742]
ATTAGTAAATGCTCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//TCCATTAGTAGCGATCTAAGGAGCGGATCAACGGATCTAAATTTAAATTAATGTAATATC
CM008241.1 [7636018-7636201]
TGTCGCCATTAACAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//TCCATTAGTAGCGATCTAAGGAGCGGATCAACGGATCTAAATTTAAATTAATGTAATATC
CM008241.1 [11149665-11149439]
ATGTAAGTATGCTCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//TCCATTAGTAGCGATCTAAGGAGCGGATCAACGGATCTAAATTTAAATTAATGTAATATC
CM008241.1 [13377796-13378009]
ACATCCCACTGTATCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//ATCCTTTAGTAGCGATCTAAGGAGCGGATCAACGGATCTAAATTTAAATTAATGTAATATC
CM008241.1 [14901552-14901313]
AGGGCCCTCCAGTCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//TCCATTAGTAGCGATCTAAGGAGCGGATCAACGGATCTAAATTTAAATTAATGTAATATC
CM008241.1 [16135471-16135243]
TGGACGAGAGAACCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//TCCATTAGTAGCGATCTAAGGAGCGGATCAACGGATCTAAATTTAAATTAATGTAATATC
CM008241.1 [16202399-16202159]
GAGACGCAAGAACCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//TCCATTAGTAGCGATCTAAGGAGCGGATCAACGGATCTAAATTTAAATTAATGTAATATC
CM008241.1 [17608721-17608527]
CATCAGGCTGCTCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//TCCATTAGTAGCGATCTAAGGAGCGGATCAACGGATCTAAATTTAAATTAATGTAATATC
CM008241.1 [20780785-20781011]
AGAACATGCTAAACCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//TCCATTAGTAGCGATCTAAGGAGCGGATCAACGGATCTAAATTTAAATTAATGTAATATC
CM008241.1 [21474785-21475012]
GGAAAAAACTCTGCAATCTGACTAAAGTCAGACCTCTATTATGCTATTGCATAGAGGATCTGATAAC//TCCATTAGTAGCGATCTAAGGAGCGGATCAACGGATCTAAATTTAAATTAATGTAATATC

Acropora digitifera (coral)

Academ-1 AdI

DF971251.1 [156959-149048]
CGTTCATCAGAGCTAGCTCCGGAAGCATCCGTTTCTCTCGCTCTCCGCGTGGGACGTTTCG//CGCAAGCTCCCGACCGCGAGAGCGAAGGAGAAACGGATGCTTCGCGAGGTAGTATGATGTCGCG
DF970694.1 [1261389-1261514] (very short derivative)
ATGCGCTGGAATAGGTAGCTCCGGAAGCATCCGTTTCTCTCGCTCTCCGCGTGGGACGTTTCG//GCCAAGCTCCCGACCGCGAGAGCGAAGGAGAAACGGATGCTTCGCGAGGTAGTATGATGTCGCG

Academ-2 AdI

DF970795.1 [793338-799479]
TAGAACCTTCGCAACCTCGTCCAGGCTTTTCGCTCCCATAGAGGGAGTGGTGAAGAAAG//CTTCTTCGCACTCCCTCTGTTGGGAAGCAGAAAGACCTGGGAACGAGGTTGACAGTGAACAGGAA
DF970942.1 [156280-150139]
TCAGCCAAATCCGCTCAACCTCGTCCAGGCTTTTCGCTTCGCCAAGAGGGAGTGGTGAAGAAAG//CTTCTTCGCACTCCCTCTGTTGGGAAGCAGAAAGACCTGGGAACGAGGTTGAAATCCGCTCAACATG
DF971416.1 [126461-130773]
CCTATGACCAAGGCCAACCCTCGTCCAGGCTTTTCGCTTCGCCAAGAGGGAGTGGTGAAGAAAG//CTTCTTCGCACTCCCTCTGTTGGGAAGCAGAAATACCTGGGTACGAGGTTGACCAAGGCCCTGTG

Academ-2N1 AdI

DF970699.1 [1415214-1416421]
ACAATGCTGTTTCAACCTGCTCCAGGCTTTTCATCTAGGGAAGAAAGACCTGGTTCAGGCTG//TTTCTTCCCTCGCTCTTGGGGTGGGAGATGAAAGACCTGGGAACGAGGTTGGTGTGTTGTTT
DF970718.1 [853337-854542]
TGGCAGCTGGGAGCACCTCGTCCAGGCTTTTCATCCGAGGGAAGACCTGGTTCAGGCTGTC//TTTCTTCCCTCGCTCTTGGGGTGGGAGATGAAAGACCTGGGAACGAGGTTGAGTGGAGCAGAAA
DF970719.1 [230915-232172]
ATTCACTGAAATCCGCAACCTCGTCCAGGCTTTTCATCTAGGGAAGAAAGACCTGGTTCAGGCTGTC//TTCGCTCGCTCCCTTGGGTTGTTGAGATGAAAGACCTGGGAACGAGGTTGAAATGCGCTGAAT
DF970728.1 [1049440-1048213]
TTCGACCAATGCTCAACCTCGTCCAGGCTTTTCATCCGAGGGAAGAAAGACCTGGTTCAGGCTG//TTCCTTCCCTCGCTCTTGGGGTGGGAGATGAAAGACCTGGGAACGAGGTTGAAATCCCTTAACCT
DF970742.1 [929623-928394]
ATTGACGACAGCTCAACCTCGTCCAGGCTTTTCATCCGAGGGAAGAAAGACCTGGTTCAGGCTG//TTCCTTCCCTCGCTCTTGGGGTGGGAGATGAAAGACCTGGGAACGAGGTTGAAACAGCATCAGAAG
DF970742.1 [1005886-1004681]
ATTGAGGACAGCATCAACCTCGTCCAGGCTTTTCATCCGAGGGAAGAAAGACCTGGTTCAGGCTG//TTCCTTCCCTCGCTCTTGGGGTGGGAGATGAAAGACCTGGGAACGAGGTTGAAACAGCATCAGAAG
DF970749.1 [111755-112973]
ACACACACTAGTCTCAACCTCGTCCAGGCTTTTCATCCGAGGACCTGGTTCAGGCTGTC//GACCTTCCCTCGCTCTTGGGGTGGGAGATGAAAGACCTGGGAACGAGGTTGACTAGTCTGGAAA
DF970760.1 [802038-800798]
GGGCTCGCCAGTGCACCTCGTCCAGGCTTTTCATCTAGGGAAGAAAGACCTGCTTCAGGCTG//TTCCTTCCCTCGCTCTTGGGGTGGGAGATGAAAGACCTGGGAACGAGGTTGCCCCAGTCCGGTTC
DF970844.1 [688394-689653]
GTTCAGGTTTTCGCAACCTCGTCCAGGCTTTTCATCCGAGGGAAGAAAGACCTAGTTCAGAATG//TTCCTTCCCTCGCTCTTGGGGTGGGAGATGAAAGACCTGGGAACGAGGTTGAGTTATGGTCCAG
DF970876.1 [512730-511476]
ATGCTGTTTCGCGGCAACCTCGTCCAGGCTTTTCATCCGAGGGAAGAAAGACCTGGTTCAGGCTG//TTCCTTCCCTCGCTCTTGGGGTGGGAGATGAAAGACCTGGGAACGAGGTTGTTTCGTTGGGCAAT

Academ-3 AdI

DF971246.1 [105961-113111]
TCGTCACTATGCGTTAGTCTCTCGCAGCCGTTATTCCGGTCTGTCAGCAATGCTCTCCCAACTAA//TTAGTTGGGAGGAGCATTGCGTGACGACCCGAAATACCGGTCGGAAGGAGACTAGATTTTTCAGGATG

Academ-3N1 AdI

DF970693.1 [112738-112435]
CAGGCTCCGAGGATAGGCTCTTCGACCCGTTATTAGGTCGTCAGCAATGCTCTCCCAACTAA//TTAGTTGGGAGGAGCATTGCGTGACGACCCCTAATAACGGTCCGGAAGGAGACTATCCGAGGATGGCTT
DF970694.1 [2282719-2283022]
GATCAATGGAATCTAGTCTCTACGACCCGTTATTAGGTCGTCAGCAATGCTCTCCCAACTAA//TTAGTTGGGAGGAGCATTGCGTGACGACCCCTAATAACGGTCCGGAAGGAGACTATGGAATCTTCTG
DF970695.1 [1176006-1176309]
GGAGCCTCTTAAAGGATGCTCTTCGACCCGTTATTAGGTCGTCAGCAATGCTCTCCCAACTAA//TTAGTTGGGAGGAGCATTGCGTGACGACCCCTAATAACGGTCCGGAAGGAGACTATCTTAACTTCTGCT
DF970696.1 [1691628-1691326]
CAGCATGTCCTGTTAGTCTCTTCGCGCCGTTATCCGGTCTGTCAGCAATGCTCTCCCAACTAA//TTAGTTGGGAGGAGCATTGCGTGACGACCCCTAATAACGGTCCGGAAGGAGACTATGCTTTCTGGGCCA
DF970700.1 [300786-301088]
TATCTCTAARACTTAGTCTCTTCGACCCGTTATTAGGTCGTCAGCAATGCTCTCCCAACTAA//GTTAGGAGGAGGAGCATTGCGTGACGACCCCTAATAACGGTCCGGAAGGAGACTATCTACTCTCGCAG
DF970705.1 [1244491-1244794]
AAATGCGGTTAGTCTCTTCGACCCGTTATTAGGTCGTCAGCAATGCTCTCCCAACTAA//TTAGTTGGGAGGAGCATTGCGTGACGACCCCTAATAACGGTCCGGAAGGAGACTATCGGTAAAGCGGCTG
DF970708.1 [997898-998183]
AGACTCTATCTCAATAGTCTCTTCGCGCCGTTATTAGGTCGTCAGCAATGCTCTCCCAACTAA//GTTAGTGGGAGGAGCATTGCGTCAACCCCTAATAACGGTCCGGAAGGAGACTATTTCTCAAGACTC
DF970709.1 [1216078-1216381]
GTGACCGGTGGGAGTCTCTTCGACCCGTTATTAGGTCGTCAGCAATGCTCTCCCAACTAA//TTAGTTGGGAGGAGCATTGCGTGACGACCCCTAATAACGGTCCGGAAGGAGACTATCGGTAAAGCGGCTG
DF970723.1 [267704-267402]
TTTCCCTTTGAGAGTCTCTTCGACCCGTTATTAGGTCGTCAGCAATGCTCTCCCAACTAA//TTAGTTGGGAGGAGCATTGCGTGACGACCCCTAATAACGGTCCGGAAGGAGACTATTTTGTGAGCCGTT
DF970724.1 [136144-135841]
GAGAGGGGTAGTCTCTTCGACCCGTTATTAGGTCGTCAGCAATGCTCTCCCAACTAA//TTAGTTGGGAGGAGCATTGCGTGACGACCCCTAATAACGGTCCGGAAGGAGACTATCCCTTAAGCAAT

AcademH-4 AdI

DF970724.1 [254106-251533]
AAGTCTACTGGGATCAATCTGCTCCAGGCTTACGTTCCCTTGTCCAGGGAAGCGAAAGCAGAG//CTCTGTTTCCGTTCCGCTGGAACAGGGAGCTAGACTCTGGGAACGAGATTGACTGGGATTAACCTG

AcademH-5 AdI

DF970732.1 [927621-923917]
GCTGAT**ACCAAGGGT**CAATCTCGTCCAGAGTCTACGTTCCCTTGTCCAGCGGAACGGGAACAAGAG//CTGTTGTTTCATTCCGCTGGACAAGGGGAAGAAGACTGGGAACGAGATT**ACCAAGGGT**CATTTG
DF971507.1 [144673-148380]
CTAAT**GATAGCCCT**CAATCTCGTCCAGAGTCTACGTTCCCTTTCCAGCGGAACGGGAACAAGAG//CTCTGTTTCCCGTCCGCTGGACAAGGGGAACGTAGACTGGGAACGAGATT**GATAGCCCT**GAGCTT

AcademH-6 AdI

DF971819.1 [37557-44713]
AGTGCCATGTTGAGATAGCTGTGTCCACAGCCGCTCTCCCGGAAAAAATCGGAGGAGAGCTGTGT//ACAGAGCTCTCCTCTGATTTTTTCCGGGGAGAGGGCGCTGTGACACAGGCTAGATTTTATTGAAAAAC

AcademH-N1 AdI

DF970758.1 [890398-893551]
CACTCTCCAGTCCCAATCTCGTCCAGAGTCTTCGTTCCCTTGACAGCGGGTCCGGTTGCGAGAG//CTCTCGTAACCCGACCCCGTGTCAAGGGGAACGAAGACTGGGAACGAGACTGGCCAGTGTGCCATAT
DF970706.1 [70558-68597]
ATTCAAAGTAGATTCCCAATCTCGTCCAGAGTCTTCGTTCCCTTGACAGCGGAACGGGAACAAGAG//CTCTCGTAACCCGACCCCGTGTCAAGGGGAACGAAGACTGGGAACGAGACTGGCCAGTGTGCCATAT
DF970726.1 [826501-816496]
TTTTTGGTTGGCAGCAATCTCGTCCAGAGTCTTCGTTCCCTTGACAGCGGGTCCGGTTACGAGAG//CTCTCGTAACCCGACCCCGTGTCAAGGGGAACGTAGACTGGGAACGAGATTGCAAAATATCTGGTT
DF970816.1 [331620-334613]
GCCCGCC**ATAC**CAATCTCGTCCAGAGTCTTCGTTCCCTTGACAGCGGGTCCGGTTACGAGAG//CTCTGTTTCCCGTCCGCTGGACAAGGGGAACGTAGACTGGGAACGAGATT**GCCATAAC**CTCGAGG
DF972116.1 [27518-25420]
GAAT**ACACCGTGA**CAATCTCGTCCAGAGTCTTCGTTCCCTTGACAGCGGGTCCGGTTACGAGAG//CTCTGTTTCCCGTCCGCTGGACAAGGGGAACGTAGACTGGGAACGAGATT**GCCACCGTGA**AGATT

AcademH-N2 AdI

DF970692.1 [1048074-1048168]
CTTGTT**ACCTGT**AGGCAACCTCGTCCAGGGTCTCTCTCTCTGCTCCATTGTGATGAGATCATCGACAATGGAGCAGAGAAGAGACCTGGGAACGAGGTT**GA**CTTGTCTATCCCA
DF970696.1 [435186-435094]
TCTCA**ATGATG**CAACCTCGTCCAGGGTCTCTCTCTCTGCTCCATTGTGATGAGAA--AACGACACTGGAGCAGAGAAGAGACCTGGGAACGAGGTT**GA**GTATGTCACTACTAT
DF970698.1 [1186067-1186161]
GGTAT**CACTAC**CAACCTCGTCCAGGGTCTCTCTCTCTGCTCCATTGTGATGAGAACTGGAGCAGAGAAGAACTGGGAACGAGGTT**GA**CTTACTTGGCT
DF970701.1 [158677-158586]
AAAT**AGGTTAT**CAACCTCGTCCAGGGTCTCTCTCTCTGCTCTTTGCTGTT--TCTCAACGACAATGGAGCAGAGAAGAGACCTGGGAACGAGGTT**GA**GGTTATGTCTCTC
DF970702.1 [1029376-1029290]
TGAT**TTTTCAG**CAACCTCGTCCAGGGTCTCTCTCTCTGCTCCATTGTGATGAGAA-----CAATGGAGCAGAGAAGAGACCTGGGAACGAGGTT**TT**TCAGGCAAGGAA
DF970703.1 [636595-636508]
AAT**GTCTCTG**CAACCTCGTCCAGGGTCTCTCTCTCTGCTCCATTGTGATGAGAA-----CAATGGAGCAGAGAAGAGACCTGGGAACGAGGTT**TC**TGTATGCTAGT
DF970708.1 [899366-899274]
GGACAT**GTATG**CAACCTCGTCCAGGGTCTCTCTCTCTGCTCCATTGTGATGAGAA--AACGACAATGGAGCAGAGAAGAGACCTGGGAACGAGGTT**GT**ATGAGGAGGCGA
DF970708.1 [983856-983677]
CAGGT**ACCCGTA**CAACCTCGTCCAGGGTCTCTCTCTCTGCTCCATTGTGATGAGAA-----AACAGTGGAGCAGAGAAGAGACCTGGGAACGAGGTT**CC**CGTAACTGGAAT
DF970711.1 [672764-672678]
AAACA**TATAAGT**CAACCTCGTCCAGGGTCTCTCTCTCTGCTCCATTGTGATGAGAA-----CAATGGAGCAGAGAAGAGACCTGGGAACGAGGTT**GT**ATAAGTAGTCAATT
DF970719.1 [845600-845513]
AGTGAT**ATTTGG**CAACCTCGTCCAGGGTCTCTCTCTCTGCTCCATTGTGATGAGAA-----CAATGGAGCAGAGAAGAGACCTGGGAACGAGGTT**GA**TTGGCATAAATAC

AcademH-N3 AdI

DF970692.1 [2321425-2321521]
TAGCGA**CTAAAC**CTAGTCTCTCCAGCGGTTTTCCGGGATGTCACGCAACGCTCCCG-----TTTCGGGGAGCGTTGCGTGACATCTCGAAAAACGGCTCGGAAGGAGACT**AGCTAAAC**CGCGGCCA
DF970696.1 [1955681-1955596]
AAACA**ATGTTG**CTAGTCTCTCCAGCGGCTTTCCAGAGTGTCAAGCA-----GCGGGGAGCGTTGCGTGACATCCCGAAAGACGGCCGCGAAGGAGACT**ATGTTGTT**CAATCGA
DF970696.1 [1955810-1955725]
CTGCG**ATGTTG**CTAGTCTCTCCAGCGTGTCTTTCCAGAGTGTCAAGCA-----GCGGGGAGCGTTGCGTGACATCCCGAAAGACGGCCGCGAAGGAGACT**ATGTTGTT**CAATCGA
DF970702.1 [315044-314963]
CTTCA**TGCTT**CAATCTCGTCCAGCGGCTTTTGGATGTCAAGCAAG-----GGAGCGTTGCGTGACATCC--AAAAGACGGCTCGCAAGGAGACT**ATGCTTT**CTCTATAA
DF970708.1 [704734-704628]
CTTCC**ATGAT**CTAGTCTCTCCAGCGGCTTTCCAGAGTGTCAAGCAACCTCCCGGTTCTTTTCGGGGAGCGCTGCGTGACATCCCGAAAGACGGCTCGCAAGGAGACT**ATCACTCACT**TAAAT
DF970714.1 [866629-866532]
CGTCT**GATGAC**AGTGTCTCTCCAGCGGCTTTTCCAGAGTGTCAAGCAACGCTCC-----GCCTTCGGGGAGCGTTGCGTGACATCCCGAAAGACGGCTCGCAAGGAGACT**ATGATCACT**TAGCA
DF970722.1 [1034550-1034646]
TTGC**CTGGAC**AGGTTAGTCTCTCCAGCGGCTTTCCAGAGTGTCAAGCAACCTCCCG-----TTTCGGGGAGCGCTGCGTGACATCCCGAAAGACGGCTCGCAAGGAGACT**ATGCGCC**CCAGGCA
DF970732.1 [295252-295177]
AGG**TTGTAG**AGGCTAGTCTCTCCAGCGGCTTTCCAGAGTGTCAAGCAAC-----GGGGAGCGTTGCGTGACATCCCGAAAGACGGCTCGCAAGGAGACT**ATAGGAG**CTGAAAT
DF970733.1 [1073577-1073677]
AA**TTTAGT**TTCTCTAGTCTCTCCAGCGGCTTTCCAGAGTGTCAAGCAACGCTCTCC-----GAAAGTTCTTTCTGTTGCGTGACATCCCGAAAGACGGCTCGCAAGGAGACT**ATGTTTCT**TTTACAA
DF970736.1 [317918-318018]
AAG**CTACG**TTTCTCTAGTCTCTCCAGCGGCTTTCCAGAGTGTCAAGCAACGCTCCCG-----GTTTCTTTCGGGGAGCGTTGCGTGACATCCCGAAAGACGGCTCGCAAGGAGACT**ACGTTTCT**CTACGT

AcademH-N4 AdI

DF970692.1 [2235390-2235307]
TGACGA**GAGAG**CTCAACCTCGTCCAGGGCCCTCTCTCTCTCC-----TCTCTGCTCAGGGGAAGGAGAGCAGAGGCGCTGGGAACGAGGTT**GAGAG**CTTTGGTT
DF970787.1 [176189-176107]
AA**ACTGGT**ACCACCACCACTCGTCCAGGGCTCTCTCACTTAACGCTGGGGGAACGAGGAGAA-----AGGAAAGAGGAGAGGCGCTGGGAACGAGGTT**GGTACC**ACCAGTCCA
DF970792.1 [571694-571806]
TGAGG**AGCTCAT**CAACCTCGTCCAGGGCCCTCTCTCTCTCTCCCTGGAGCAGAGAGGAGAAATATCTCTCTCTCAGGGGAAGGAGAGGAGGCGCTGGGAACGAGGTT**GAGCTCAT**CACTGTAT
DF970807.1 [449991-449884]
TTT**CAATG**AGCGCAACCTCGTCCAGGGCCCTCTCTCTCTCTCCCTGGAGCAGAGAGAA-----TCTCTTCTCTCAGGGGAAGGAGAGGAGGAGGCGCTGGGAACGAGGTT**GATGAC**AGCGGCTG
DF970807.1 [605455-605537]
AAT**CAGCA**ATTCGCAACCTCGTCCAGGGCCCTCTCTCTCTCTCC-----TCTCTGCTCCAGGG--AAGGAAAGAGGAGGCGCTGAGAACGAGGTT**GACA**ATTCGGCCGCGC
DF970811.1 [741943-741860]
AA**AGTACT**GGCTTCAACCTCGTCCAGGGCCCTCTCTCTCTCTCC-----TCTCTGCTCCAGGGGAAGGAGAGCAGAGGCGCTGGGAACGAGGTT**CTGG**CTTCTACTTA
DF970819.1 [562263-562179]
AA**CTCTAA**ATTCAGCAACCTCGTCCAGGGCCCTCTCTCTCTCTCC-----TCTCTGCTCCAGGGGAAGGAGAGCAGAGGCGCTGGGAACGAGGTT**TA**AAATTAAGGCA
DF970835.1 [423676-423759]
TAA**ATTC**CGTGTATCAACCTCGTCCAGGGCCCTCTCTCTCTCTCC-----TCTCTGCTCCAGGGGAAGGAGAGGAGGCGCTGGGAACGAGGTT**CTCG**TGATATCTCT
DF970839.1 [474078-474161]
AC**CGTTC**AGAGGTTCAACCTCGTCCAGGGCCCTCTCTCTCTCTCA-----CCTGCTCAGGGGAAGGAGAGGAGGAGGCGCTGGGAACGAGGTT**TCAG**GTTTTTCAG
DF970840.1 [494960-495049]
AAG**TTA**GGCAAGTCAACCTCGTCCAGGGCCCTCTCTCTCTCTTTA-----CCCTCTCTCTCAGGGGAAGGAGAGGAGGAGGCGCTGGGAACGAGGTT**GGCA**AGTGTCTCATG

AcademH-N6 AdI

DF970695.1 [554537-554472]
TCA**ATGTTG**TCATCAACCTCGTCCAGGGCTTTTCTCTCT-----CCTCTCATCGGGGAGAAAGCCCTGGGAACGAGGTT**GTGTT**CTATGAGAA
DF970697.1 [1083212-1083149]
GT**CTCT**TTTTATCTCAACCTCGTCCAGGGCTTTCTCTCTCCG-----CTCTCT--CAACGGAGAAAGCC--TGGGAACGAGGTT**TTGTT**CTCTCTCT
DF970702.1 [87740-87656]
CG**GTG**CA**TAG**AGGCAACCTCGTCCAGGGCTTTTCTCCGCGAGGAGAGAA--GGCCATCTCCCTCC--TCGGCGGAGAAAGCCCTGGGAACGAGGTT**CCATG**AGGATATAC
DF970707.1 [637769-637680]
TCC**CTA**T**AGCC**AGCAACCTCGTCCAGGGCTTTTCTCCGCGAGGAGAGGCTTCCATCTCCGCTCTCTGCTGGCGGAGAAAGCCCTGGGAACGAGGTT**AGCCT**GTAGCCTCT
DF970728.1 [241489-241404]
AA**ATGAA**AGGTTTCAACCTCGTCCAGGGCTTTTCTCCGCGAGGAGAGGATGGCCATCTCT--CC--TCGGCGGAGAAAGCCCTGGGAACGAGGTT**GA**AGATTATAGATG
DF970732.1 [539178-539102]
GGAG**CAATTT**ATAGCAACCTCGTCCAGGGCTTTTCTCCGCGAGGAGAGGAGGAGGCGC-----TCGGCGGAGAAAGCCCTGGGAACGAGGTT**GA**ATTTATAGATGCTG
DF970735.1 [194895-194826]
AC**ATGG**AGAGCTTCAACCTCGTCCAGGGCTTTTCTCCGCGAGGAGAGGATGG-----CGGAGAAAGCCCTGGGAACGAGGTT**GA**AGACTTAACTAA
DF970741.1 [103115-103055]
AAG**CGT**AGGCAAGGCAACCTCGTCCAGGACTCTCTCTCT-----CCTCGGCGGAGAAAGCCCTGGGAACGAGGTT**AGG**CAGAGGAGACT
DF970743.1 [539635-539556]
AA**AACT**ATATAAGGCAACCTCGTCCAGGGCTTTTCTCCGCGAGGAGAA-----TGGCTCTCTCCGAGAGAAAGCCCTGGGAACGAGGTT**GA**ATAAAGGTACAGT
DF970766.1 [388094-388025]
CT**TAAG**CGGGAAGCAACCTCGTCCAGGGCTTTTCTCCGCTCT-----CCTCTCTCCGCGGAGAAAGCCCTGGGAACGAGGTT**GGG**GAAGAATACTTA

AcademH-N7 AdI

DF970693.1 [1194374-1194018]
TT**ACCT**CA**TGAC**AGCAACCTCGTCCAGGGCTTTTCCATAAAGAGTGGGAGGGCGGAAAGGCC//GGTCTTTTCCGCGCTCCCAATTTCTTAGGAAAAAGCCCGGGAGGAGGTT**CT**ATCGAGCAAAACG
DF970733.1 [408012-408373]

DF970694.1_[190177-195386]
TAATTATCTTAGTATAGTCAGGGGCCAGACTCCTCTATCATGCTTAAAAATGGCTTTGACATGGACGG//TTTATATCAAGGTGTCCATCATTTCGCAAAAAATTTGGGCTCTGGCCCCCTGAATAAGTACGCATGTGAAC
DF970782.1_[65078-69838]
AAACAAAATTAAATATAGTCAGGGGCCAGACTCCTCTATCATGCTTAAAAATGGCTTTGACATGGACGG//TTTATATCAAGGTGTCCATCATTTCGCAAAAAATTTGGGCTCTGGCCCCCTGACTATAGGGGTTGAAAAAT
DF971552.1_[24861-31395]
TGTCACCTGTACTACTAGTCAGGGGCCAGACTCCTCTATCATGCTTAAAAATGGCTTTGATATGGACGG//TTTATATCAAGGTGTCCATCATTTCGCAAAAAATTTGGGCTCTGGCCCCCTGACTATACGTAATCACTAGC
DF971552.1_[107010-113544]
TGTCACCTGTACTACTAGTCAGGGGCCAGACTCCTCTATCATGCTTAAAAATGGCTTTGATATGGACGG//TTTATATCAAGGTGTCCATCATTTCGCAAAAAATTTGGGCTCTGGCCCCCTGACTATACGTAATCACTAGC

Academ-9 ADi

DF971075.1_[195335-193449]
ACACGCCACCACCTTAGTCCATGGGCCAGACCACCTTTTCGGTACCAACATAAGGACAAAACTGAGT//TTATCCCTCGTTTTGGTACCATAAGTCTTTTTAGGGCTCTGGCCCATGGACTATACAGCGGTTTCTT

Academ-N1 ADi

DF971183.1_[56453-58977]
TCTTTCCCGTGTATTAGACTGGGACAAATCCAGAAAGCCTGCTATTTTAACTTCTGTGGCAACT//ACTTTTCTCGAGTTTGGCCAGAGAAGTCCACTTTTTGGCAATGTCCAGTCTATTTGCAACATTAAA

Academ-N2 ADi

DF971375.1_[158936-156240]
ATAAATAAATCAAAATAGTCAGGGCGTTATTTCAGAAATATTACATAAAATGTGCACCTTTGGCTAAAAA//CATTTTCATTATTTTAGCCAAAAAGTGACAAATTTTTTACATAACCCCTTAACATAAAATGGAATTGGGCC

Academ-N4 ADi

DF970920.1_[520454-517482]
ACAAATGACAAAGGATAGTGTGGTCCGTTAACCCAAAATTTGAGCCGGATCATGACAAAGCGGACAAAAG//AATTTTGGCCTTTTGTCCAGTCTAACACGATCATTCCGCTAAGCGGCCAGACTAGGATGCTTATGTGAA
DF971062.1_[146057-143270]
CAAAACAGTGGCTAAATAGTCTGGTCCGTTAATGCAAAAATTTGAGCCGGATCGGATAAAGCGGACAAAAG//AATTTTGTCACTTTTGTCCAGTCTGTCCAGGATCATTCCGCTAAGCGGCCAGACTAAAGTATGCTGTG
DF971231.1_[126496-129444]
CCGTGTTTTCAATTAATAGTCTGGTCCGTTAATGCAAAAATTTGAGCCGGATCGTACAAAGCGGACAAAAG//AATTTTGGCCTTTTGTCCAGTCTGTCCAGGATCATTCCGCTAAGCGGCCAGACTATTAAGTAGAAGGTTAT
DF971286.1_[17868-15028]
AAACTGTCTTGTATAGTCCGGTCGCTTAATGCAAAAATTTGAGCCAGATCGTACAAAGCGGACAAAAG//AATTTTGGCCTTTTGTCCAGTATCTCAGATCATTCCGCTAAGAGACCAGACTATATGCCCATTGTATT

Figure S3. Termini and TSDs of *AcademHP* families from animals. TSDs are colored in red. Positions of TEs are shown in parentheses.

Priapulus caudatus (priapulus)

AcademHP-1 PrCa

KQ717385.1 [15604-5998]
GAGACTCTTATCANATGATGTCCAGGCAACACAGTAAATAGGCGCGTAGAAGTGACCGCATAGAAAATA//TATTTTCTATGCGGTCACCTTCTACGCGCCTATTTTACTGTGTTGCTGACATCATGCGGGCTCTGGTGAC

Saccoglossus kowalevskii (acorn worm)

AcademHP-1 SKow

ACQM01014202.1_[9392-482]
ATGTAGCTGGAAATGTAGCTGTGGTCCATAGCTCTGCTTGTGTCGATCTGATGTTATAATAAACGTACT//AGTACGTTTATATAACATCAGATCGACACAAGCAGAGCTATGGACCCACAGTAGAGGGGACCTAGTAT
ACQM01090185.1_[9254-351]
AACCGACCGAAAAATAGCTGTGGTCCATAGCTCTGCTTGTGTCGATCTGATGTTATAATAAACGTACT//AGTACGTTTATATAACATCAGATCGACACAAGCAGAGCTATGGACCCACAGTACTGGAAATGTAGTATTA
ACQM01120027.1_[9244-460]
GCATCAGGCAAGCTGTAGCTGTGGTCCATAGCTCTGCTTGTGTCGATCTGATGTTATAATAAACGTACT//AGTACGTTTATATAACATCAGATCGACACAAGCAGAGCTATGGACCCACAGTACTCTATGGCTGTCA
ACQM01122246.1_[479-9324]
CTGTACTTTTGGCTTAGCTGTGGTCCATAGCTCTGCTTGTGTCGATCTGATGTTATAATAAACGTACT//AGTACGTTTATATAACATCAGATCGACACAAGCAGAGCTATGGACCCACAGTACTAAACGATAAATACAT

(internally deleted derivatives)

GL011285.1_[64378-57551]
AGTGGCTGTGTACCTAGCTGTAGGTCATAGATCTGCTTGTGTCGATCTGATGTTATAATAAACGTACT//AGTACGTTTATATAACATCAGATCGACACAAGCAGAGCTATGGACCCACAGTAGCAGAGCTGTGGACC
GL012061.1_[17161-16973]
ACATACAATGATGACTAGCTATGGGCCATAGCTCTTCTTGTGTCGCTTTTGTCTCTGTGATGAT//TATCTGAAATAAAAACAAAATAGTGACACAAGAAGAGCTATGGACCCACAATAAATATCATGATT
GL012471.1_[26952-18443]
GAATATGTCGAACATAGCTGTGGTCCATAGCTCTGCTTGTGTCGATCTGATGTTATAATAAACGTACT//AGTACGTTTATATAACATCAGATCGACACAAGCAGAGCTATGGACCCACAGTACTCTATGGCTGTCA
GL013212.1_[1068184-1068045]
CAGTAGCTGATATAGCTGTGGACCATAGCTCTGCTTGTGTCGATCTGATGTTATAATAAACGTACT//CATACGTTCAATATATCGTCAAGTCAAGCAGAGCTATGGACCCACAGTACTGTATATTTGAAC
GL013286.1_[281495-281205]
AATCACCTGCTAGTACTAGCCGTTGATCATATCTTCTTGTGTCGCTTTTGTGGTATATTTTAGAAA//CCATCACAAGAGCTAAAGACCGACACAAGAAGAGCTATGGACCACTTACAGTACTGTAGTCAAAATTA
GL013464.1_[384002-383236]
AGTAACTCAATTTGTAGCTGTGGACCATAGCTCTGCTTGTGTCGATCTGATGTTATAATAAACGTACT//AATAACATAACCAAGACTACAGACCGACACAAGAAGAGCTATGGAAATCAGAGCTATCCAAGTTGTGTCT
GL014407.1_[120945-121830]
ATGTAGCTGGAAATGTAGCTGTGGTCCATAGCTCTGCTTGTGTCGATCTGATGTTATAATAAACGTACT//AGTACGTTTATATAACATCAGATCGACACAAGCAGAGCTATGGACCCACAGTACTGGAAATGTAGTATTA
GL014555.1_[406644-397370]
TTTTACCAAAAGATAGCTGTGGTCCATAGCTCTGCTTGTGTCGATCTGATGTTATAATAAACGTACT//AGTACGTTTATATAACATCAGATCGACACAAGCAGAGCTATGGACCCACAGTACTAAACGATAAATACAT
GL015690.1_[49435-49179]
CTCTATGTACTAGCTGTAGCTGTGGTCCATAGCTCTTCTTGTGTCGCTTTTGTCTTTGTAAATGGTTA//AATACCAATTAACAATAACTAAAGACCAACAAGAAGAGCTACGGACCCATAGCTAGCACTCTGTAACCTA
GL018532.1_[32133-31068]
AGAACATCCGGCAGTAGCTGTGGTCCATATCTTCTTGTGTCGATGTTATTTAGCTTTTGTGATGAT//ACGATCACAAGGACTAAAAAAAACCGATACAAGAAGAGCTATAGACCCACACTACCAGGTAAGTTCTG

Strongylocentrotus purpuratus (purple sea urchin)

AcademHP-1 SP

KN918009.1_[267917-283515]
GATTTGGCAAAAACATAGCTGACCCAGCCGCTGCTAGCAGCGGCTGACCTCTCCCATACCGCCA//TTTTGGAGCAAGCGGGGTACATCCCGAGCTTCGCTCGGGGATGTGTATATTTAGGCTGATTTGGATC
KN919599.1_[331545-347125]
TATTTTATCTACAGTAGCTGACCCAGCCGCTGCTAGCAGCGGCTGACCTCTCCCATACCGCCA//TTTTGGAGCAAGCGGGGTACATCCCGAGCTTCGCTCGGGGATGTGTATATTTATCTACAGTATGTATC

(internally deleted derivatives)

KN914055.1_[130122-130171]
ATGCACGGCCGAGTAGCTGACCCAGCCGCTGCTAGCAGCGGCTGACCTCTCCCATACCGCCA//TTTTGGAGCAAGCGGGGTACATCCCGAGCTTCGCTCGGGGATGTGTATATTTATCTACAGTATGTATC
KN914420.1_[21171-21975]
ATGCACAAATCAATCTAGCTGACCCAGCCGCTGCTAGCAGCGGCTGACCTCTCCCATACCGCCA//TTTTGGAGCAAGCGGGGTACATCCCGAGCTTCGCTCGGGGATGTGTATATTTATCTACAGTATGTATC
KN918731.1_[181769-190381]
TTGTATCTCAAAACAGCTGACCCAGCCGCTGCTAGCAGCGGCTGACCTCTCCCATACCGCCA//TTTTGGAGCAAGCGGGGTACATCCCGAGCTTCGCTCGGGGATGTGTATATTTATCTCAAAAGTGTGAAA

Table S3. Non-autonomous DNA transposons newly classified as *Academ*.

Original name	Origin	New name	Lineage
<i>DNA8-3_PGr</i>	<i>Puccinia graminis</i>	<i>AcademH-N2_PGr</i>	<i>AcademH</i>
<i>DNA8-3B_PGr</i>	<i>Puccinia graminis</i>	<i>AcademH-N2B_PGr</i>	<i>AcademH</i>
<i>DNA9-1_PGr</i>	<i>Puccinia graminis</i>	<i>AcademH-N3_PGr</i>	<i>AcademH</i>
<i>DNA9-1B_PGr</i>	<i>Puccinia graminis</i>	<i>AcademH-N3B_PGr</i>	<i>AcademH</i>
<i>DNA9-2_PGr</i>	<i>Puccinia graminis</i>	<i>AcademH-N4_PGr</i>	<i>AcademH</i>
<i>DNA9-3_PGr</i>	<i>Puccinia graminis</i>	<i>AcademH-N5_PGr</i>	<i>AcademH</i>
<i>DNA9-4_PGr</i>	<i>Puccinia graminis</i>	<i>AcademH-N6_PGr</i>	<i>AcademH</i>
<i>DNA7-2_PSt</i>	<i>Puccinia striiformis</i>	<i>AcademH-N9_PSt</i>	<i>AcademH</i>
<i>DNA7-3_PSt</i>	<i>Puccinia striiformis</i>	<i>AcademH-N10_PSt</i>	<i>AcademH</i>
<i>DNA9-1_PSt</i>	<i>Puccinia striiformis</i>	<i>AcademH-N11_PSt</i>	<i>AcademH</i>
<i>DNA9-2_PSt</i>	<i>Puccinia striiformis</i>	<i>AcademH-N12_PSt</i>	<i>AcademH</i>
<i>DNA-10_PSt</i>	<i>Puccinia striiformis</i>	<i>AcademH-N6_PSt</i>	<i>AcademH</i>
<i>DNA-15_PSt</i>	<i>Puccinia striiformis</i>	<i>AcademH-N7_PSt</i>	<i>AcademH</i>
<i>DNA-27_PSt</i>	<i>Puccinia striiformis</i>	<i>AcademH-N8_PSt</i>	<i>AcademH</i>
<i>DNA9-1_MLP</i>	<i>Melampsora larici-populina</i>	<i>AcademH-N1_MLP</i>	<i>AcademH</i>
<i>DNA9-8_CGi</i>	<i>Crassostrea gigas</i>	<i>AcademH-N1_CGi</i>	<i>AcademH</i>
<i>DNA9-2_CGi</i>	<i>Crassostrea gigas</i>	<i>AcademH-N2_CGi</i>	<i>AcademH</i>
<i>DNA9-2B_CGi</i>	<i>Crassostrea gigas</i>	<i>AcademH-N2B_CGi</i>	<i>AcademH</i>
<i>DNA-27_CGi</i>	<i>Crassostrea gigas</i>	<i>AcademH-N3_CGi</i>	<i>AcademH</i>
<i>DNA-9-34_NV</i>	<i>Nematostella vectensis</i>	<i>AcademH-N1_NV</i>	<i>AcademH</i>
<i>DNA-9-34A_NV</i>	<i>Nematostella vectensis</i>	<i>AcademH-N1A_NV</i>	<i>AcademH</i>
<i>DNA-9-36_NV</i>	<i>Nematostella vectensis</i>	<i>AcademH-N2_NV</i>	<i>AcademH</i>
<i>DNA-9-36A_NV</i>	<i>Nematostella vectensis</i>	<i>AcademH-N2A_NV</i>	<i>AcademH</i>
<i>DNA-3-3_NV</i>	<i>Nematostella vectensis</i>	<i>Academ-N1_NV</i>	<i>AcademX</i>
<i>DNA-3-4_NV</i>	<i>Nematostella vectensis</i>	<i>Academ-N2_NV</i>	<i>AcademX</i>
<i>DNA-3-5_NV</i>	<i>Nematostella vectensis</i>	<i>Academ-N3_NV</i>	<i>AcademX</i>
<i>DNA-3-6_NV</i>	<i>Nematostella vectensis</i>	<i>Academ-N4_NV</i>	<i>AcademX</i>
<i>DNA-3-7_NV</i>	<i>Nematostella vectensis</i>	<i>Academ-N5_NV</i>	<i>AcademX</i>

The number just after 'DNA' and before '-' in the family names indicates the length of TSDs.

Table S4. *AcademHP* remnants found in teleost.

Order	Family	Species	Accession numbers
Anabantiformes	Anabantidae	<i>Anabas testudineus</i>	LR132056.1
	Osphronemidae	<i>Betta splendens</i>	LR132012.2
Carangiformes	Carangidae	<i>Seriola lalandi</i>	NW_019525454.1
Ovalentaria incertae sedis	Pomacentridae	<i>Stegastes partitus</i>	NW_007577820.1
		<i>Acanthochromis polyacanthus</i>	NW_019029904.1
Perciformes	Bovichtidae	<i>Cottoperca gobio</i>	LR131930.1
Pempheriformes	Lateolabracidae	<i>Lateolabrax maculatus</i>	CP032593.1
Cypriniformes	Cyprinidae	<i>Labeo rohita</i>	QBIY01012683.1, QBIY01012664.1