

Supplementary Materials

GH62A

ATGATTCCCTTGCTCCGCTCTCCTTCTATTGTTACCGGTCGTCTGGCCTGGCACTTCCTACGGATG
AAACTGCACAAAACACCACAGAGGCAAGAGCCGGATGTGCTTACCATCTAGCTATAGCTGGACGTCAAC
TGGTCCCCTGGCCAACCCAGCTCTGGATTCCCTCGCTTGAAAGATTCACCCACGTTCTTACAACCGT
CAACATCTCGTATACGCGTCAGACGTCAACAATGGAGGAAACTACGGTCTTGAAATTTCGCCCTCT
CAGACTGGAACTCAATGGGCTCGGTGGCCAACACACTATGAGTACTGGAGCTGTTGCTCTCAACTGTT
CTTTTTACTCCTAAGAACATCTGGGTGCTGGCATATGAATGGGGCGCAAGTCCTTCAATTATAGGACC
TCCAGTGAACCCACCAATGCAAATGGATGGTATCGCCTCAGTCACTCTACACTGGAAGTACTGGCTCTA
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TGGCAAGATATATCGAGCCAGCATGCCAATTGGTAATTCCCGGTAACCTTGGTCTTCAGCACAAAGTG
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GAGCGGTTCTGGACACCTCAGGCCACCAGCGTGTCAAGCACCGTTCGCGGCAAGGCAAATAGCGGTGCC
AGCTGGACCAACGATATCAGCAGTGGTATTGATTAGAGCCAGTGTGACCAGACCATGCCTATTGATG
CTTGCAATTACAGCTCCTCTATCAGGCAGAGCAACCAACTCTGGTGGCAGTTATAATGACTTGCCTTA
CCGTCCAGGTTACTTACCCACAAATAG

MIPLAPALLLLPVVSGLA_{LPTDEAQNTTEARAGCALPSSY}WTSTGPLANPASGLFLAKDFTHVPYNG
QHLVYASDVNNNGNYGSLN_{FALFSWDNSMGSA}QHTMSTGAVAPQLFFTPKNIWVLAYEWGASP_{FN}YRT
SSDPTNANGWSPQSLYTGSTGSSTGPIDPSLIGDSQNMYLFFAGDNGKIYRASMPIGNFPNGF_{GSSAQV}V
VLS_{DSTVNLFEAVQVYSVQGQNQYLMIVEARDPSENRYFRSFTASSLGSWTPQATSVSAPFAGKANSGA}
SWTN_{DISSGDLIRASADQTMPIDACNLQ}LLYQGRATNSGGSYNDLPYRPGLLTHK

GH62B

ATGCTCTGGTTGCGTCTTGCTCTGGT_{GATACCAGCTGT}CACAGCTCAAGCA_{TCG}CTTATGGTCAAT
GTAAGTCTCAATT_{TCGAAC}CTACTAGTCTTATTGCA_GTAGAGCTAAGATCTACGCCAGC_{CG}GGTGGT
CAGGGCTGGACTGGAGCTACTACCTGT_{TTCTGGCTCTGTTG}TACCTACTCCAATGCCTGGTACTCGC
AGTGTCTTCCGTGCTCCGGCGGAAGTGGTACTACTACCTCAACTACTTAACCACCAAGGCC
AACCTCCACTTCCCACTACCTCCAGCTCTCAAGCACATGCACTCTGCCGTCTCAGTATAAGTGGACT
TCAAGCGGATCGCTCGCAACCCAGCGTCAGGCTATCTGCGCTCAAGGACTTCAC_TCATGTGCCGTATA
ATGCCAGCACCTGT_{TATGCTTGT}TAATACCGGTGGAAGCTATGGTCAATGAAC_{TTTGCTCT}
GTTCTCGA_{ACTGGT}CTCAAATGGCTCCGCCACCAAGACG_{CAGATGAGCCAGGGAGCTG}TG_{TG}CCCTGAT
CTCCTGACTTTGACCAAAACAGATCTGGTTCTAGGTTACGAATGGTGTGAATGGCCTTTGCTATC
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CGGAACAGGTCTATTGATCCGGCAATTATCGCTGATGATA_{AA}ATGTTATCTCTTCTGCCGGCGAC
AATGGCAATATCTACCGAGCTCTATGCCATTGCAACTTCCCTGCTAGCTTG_GCTCTGCTACAA
CCATCCTGACTGATTGACATACAACCTCTCGAAGCTGT_{CGAAGT}CTACTCTATTCA_GGGCCAGAACCT
TTACCTTATGATTGAGTGCATTGGTCAACGGAA_{GAT}ATTTC_CCGCTCTTACAGCTACGAGTCTA
GGTGGCACGTGGACTGCTCAAGCTAGCACTGAGTC_{AAACCCATT}CGCTGGATATGCCAATAGCGGTGCTA
CCTGGACCAAGGATATCAGCAGTGGT_{GAC}TTATCGAAGCAGTGCTGATCAGACTAAACCAGTCGATCC
CTGCAACCTTCAGCTGCTTACCAAGGAAGAAGCCTAGCTCTGACGGCGATTCA_TATAACGATCTTCC
TACCTCCAGGTCTT_{GAC}CC_TGCTCAAGTAG

MLWVAS_{LLLVI}PAVTAQ_ASLYQCGGQGWTGATTCVSGSCCTYSNAWYSQCLPCSGGS_{TTT}STTL_{TTT}
TKPTSTS_{SSSS}ST_{TL}PSQYKWTSSGSLANPASGYLSKDFTHVPYNGQHLVYASDVNTGGSYGS_{MN}
FALFSNWSQMASATKTQMSQGAVAPD_{LLY}FAPKQIWLGYEWC_AFCYL_TSTNPTN_{WSSPQ}PLYQ_G
TLSGTGPIDPAI_{IADD}TNVYLF_{FAGDNGN}IYRASMPIGNFPASFGSSATT_{IL}T_DSTYNL_FEAVEVYSI_{QG}
ONLYLMIVECIGSN_{GRY}FRSFTATSLGGTWTAQ_{EST}SNPFAGY_{AN}SGATWTKDISSGDLIRSSADQ_{TKP}
VDPCNLQ_{LLY}QGRSPSSDGDSYNDLPYLPGLL_{TSK}

Figure S1. DNA and aminoacidic sequences of GH62A and GH62B. Signal peptide regions are indicated in red. The intron is highlighted in yellow.

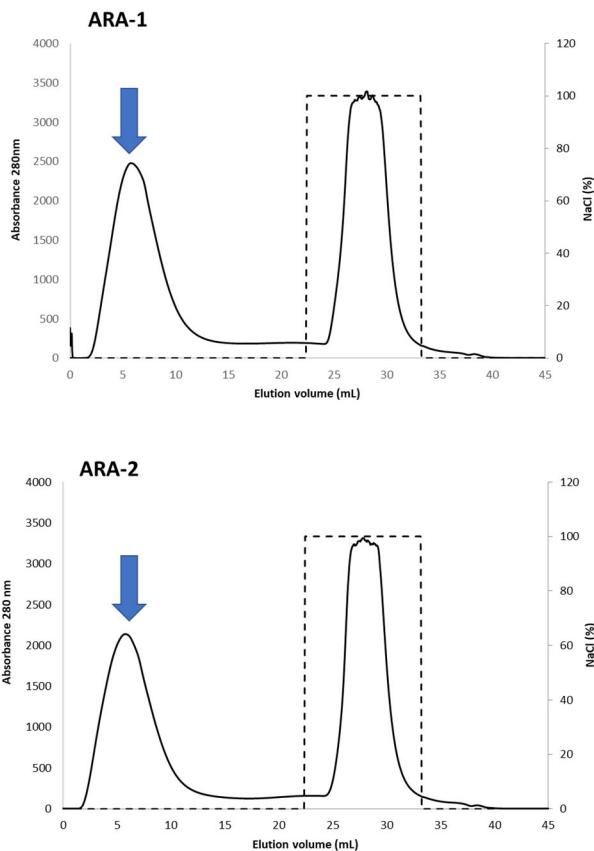
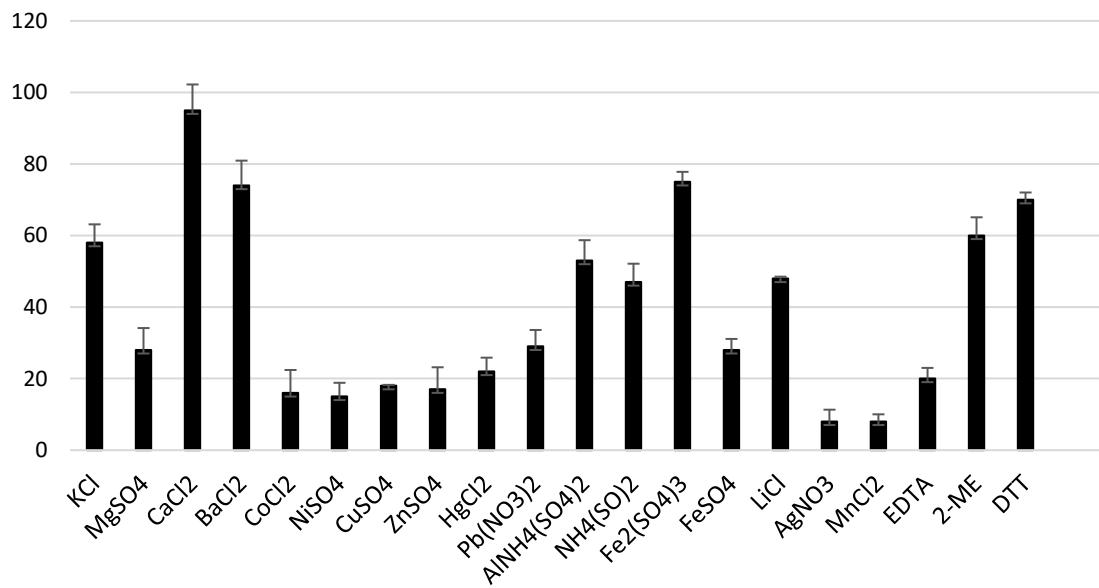


Figure S2. ARA-1 and ARA-2 purification using anion exchange chromatography. Dashed line, NaCl 1 M (%). Blue arrows point to peaks where enzymatic activity was detected.

ARA-1



ARA-2

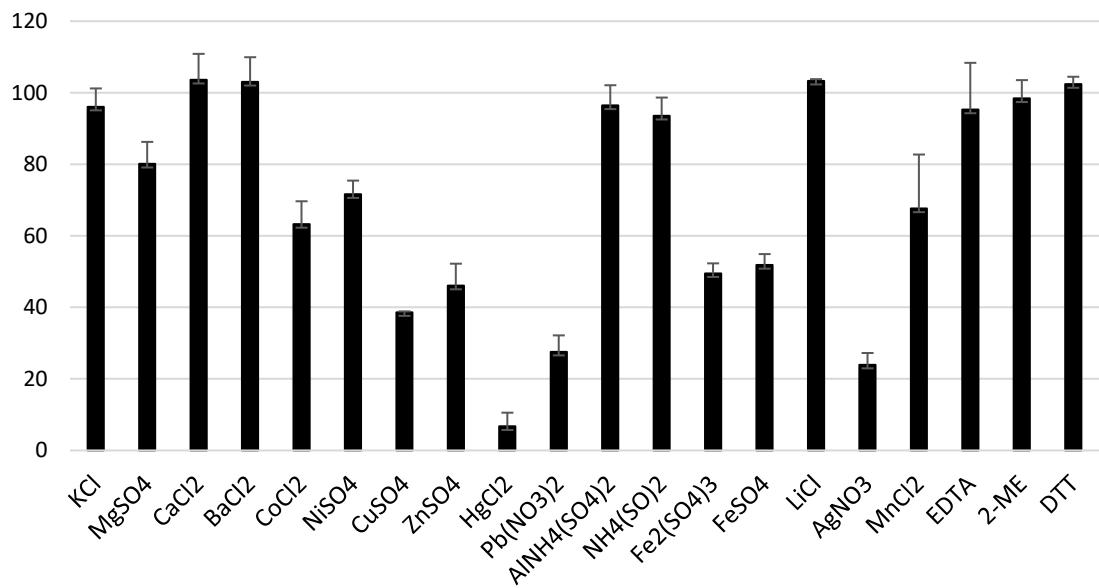


Figure S3. Effect of common compounds in ARA-1 and ARA-2 activity. Activity was measured under standard conditions and compared after incubation with the different chemicals. 100% activity was corresponded to the activity value determined without added compound.