

Identification of *Aspergillus niger* aquaporins involved in hydrogen peroxide signaling

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Table S1: Primers used in this study**A: Primers for yeast experiment**

Primer	Sequence 5' → 3'
SC_aqpA.1_FW	GCATCGTCTCATCGGTCTCATATG <u>GGG</u> CCGCAACAATGGTTTC
SC_aqpA.1_RV	ATGCCGTCTCCGTGACCCGGGCGCTGGCTTGG
SC_aqpA.2_FW	GCATCGTCTCATCACCTCCAAACACCTCAAACCTG
SC_aqpA.2_RV	ATGCCGTCTCAGGTCTCAGGATCCCACCTGCTCTGCCCCGTG
SC_aqpB.1_FW	GCATCGTCTCATCGGTCTCATATG <u>GT</u> GCACCCGGTTAGATCTCTC
SC_aqpB.1_RV	ATGCCGTCTCCGGCGCCCCTCCTGGAGGTTTCTTC
SC_aqpB.2_FW	GCATCGTCTCACGCCTCTCGCAACAAAAGTCATGGAAC
SC_aqpB.2_RV	ATGCCGTCTCCTCCCTTTCTTCCTTTTCGATCCTCCGGCAAGGCTCCATA CCGCATTCCGTCCCGGAC
SC_aqpB.3_FW	GCATCGTCTCAGGGACGAGGATGGACGAGAACGCC
SC_aqpB.3_RV	ATGCCGTCTCCGGCCGAGAGTGATGGCGATGG
SC_aqpB.4_FW	GCATCGTCTCAGGCCTCTGCGGCGGGTTGTCAACC
SC_aqpB.4_RV	ATGCCGTCTCCTTTCGACGGAGAGGTTGACGATG
SC_aqpB.5_FW	GCATCGTCTCAGAAACCAACCTCCCACAAAGCGAAAC
SC_aqpB.5_RV	ATGCCGTCTCCCTCCTCGGCGGGTAATTGATCG
SC_aqpB.6_FW	GCATCGTCTCAGAGGCGCAAGCGCGCACTGCTGATC
SC_aqpB.6_RV	ATGCCGTCTCCGGTCTCAGGATCCATCCTGGTTCTCCTCAACTG
SC_aqpC_FW	GCATCGTCTCATCGGTCTCATATGCGAGGCCTACTGTTTCGTC
SC_aqpC_RV	ATGCCGTCTCAGGTCTCAGGATCCTGCCTTCCATGGCGGCAC
SC_aqpD.1_FW	GCATCGTCTCATCGGTCTCATATGTTTCTCAACACTGGCCTCTC
SC_aqpD.1_RV	ATGCCGTCTCCTCCCCCTCATAGAGGAATGTGTCTG
SC_aqpD.2_FW	GCATCGTCTCAGGGACGGGTCGCGCATCACCGATG
SC_aqpD.2_RV	ATGCCGTCTCAGGTCTCAGGATCCGTGCAGCCGCAGAGCAC
SC_aqpE.1_FW	GCATCGTCTCATCGGTCTCATATGACGACGGGGAAACCAGG
SC_aqpE.1_RV	ATGCCGTCTCCAACGCGGCGGGTGGGAGAAAC

Primer	Sequence 5' → 3'
SC_aqpE.2_FW	GCAT CGTCTC <u>ACGTTT</u> CTGGCCGTGATGGCTCCG
SC_aqpE.2_RV	ATGCC GTCTC <u>CTGTCT</u> CTTCTGGGCCAGCCATGGTG
SC_aqpE.3_FW	GCAT CGTCTC <u>CAGACA</u> CCTCAGCTGCGCTTGGC
SC_aqpE.3_RV	ATGCC GTCTC <u>CTTTT</u> CACTGGGAGCCGGGGTTTCGCC
SC_aqpE.4_FW	GCAT CGTCTC <u>CAGAA</u> ACCCATGAGGAACCCCTCAG
SC_aqpE.4_RV	ATGCC GTCTC <u>CAACG</u> TAGATGGCCATCATGGTAGC
SC_aqpE.5_G-Block	GCAT CGTCTC <u>ACGTTT</u> CCGGTGGTGTGTCCGGTGCACATCTCAATCCG ACCATCACCATTATGCTATGGTTTTACCGCGGTTTCCCCAAGAGCAAGA TGCCCGAGTACTTCGCCGCGCAATTCTTGGGGGCCTTCATCGCCGCGCT CGCCGCGTACGGTCTTTACTATCACTCCATCCAACACTATCTCCTGACC AACTCCACCACGGGCATCATCACCAGCTTTGTGACAAGTCAGCGCGAA ACCTGGATCGGTCCTGGTACTGCCTTCTTTACCGAATTTCTGGGCACGA TGATACTGACGGTGGTGGTCCTGGCGCTGGGTGACGATCAGAACGCAC CCCCGGGAGCGGGTATGAACTCACTCATCGTGGGGCGGAGACGGCAT
SC_aqpE.6_FW	GCAT CGTCTC <u>CAGGG</u> CTCATGGTGACCTGCAACACG
SC_aqpE.6_RV	ATGCC GTCTC <u>CAGGTCTC</u> <u>AGGAT</u> CCACGAACAGTCTTCTCTCCC
SC_aqpF_FW	GCAT CGTCTC <u>CATCGGTCTC</u> <u>ATATG</u> GTGGTCACTTATCTCCCCG
SC_aqpF_RV	ATGCC GTCTC <u>CAGGTCTC</u> <u>AGGAT</u> CCCTCCGCGCGAGGATCCTTC
SC_aqpG.1_FW	GCAT CGTCTC <u>CATCGGTCTC</u> <u>ATATG</u> ATACCTGAGACAGAGAAGAGT
SC_aqpG.1_RV	ATGCC GTCTC <u>CCCATCT</u> CGATCTTTGGAGGTGGGTGC
SC_aqpG.2_FW	GCAT CGTCTC <u>CAGATG</u> ACCCCGGTAACCTTTCCTAC
SC_aqpG.2_RV	ATGCC GTCTC <u>CAGGTCTC</u> <u>AGGAT</u> CCACTCAACGAAGCTGCCCC
SC_FPS1_FW	GCAT CGTCTC <u>CATCGGTCTC</u> <u>ATATG</u> AGTAATCCTCAAAAAGCTCTAAAC
SC_FPS1_RV	ATGCC GTCTC <u>CAGGTCTC</u> <u>AGGAT</u> CCTGTTACCTTCTTAGCATTACC
SC_pYTK001_FW	GCCTATGGAAAAACGCCAGC
SC_pYTK001_RV	CGCTTGGA CT CCTGTTGATAG

Remark:

1. SC: primers for *Saccharomyces cerevisiae* experiment
2. underline letter: type specific overhangs
3. bold letter: restriction site for *BsaI* (GGTCTC) and *BsmBI* (CGTCTC)

B: Primers for RT-qPCR

Primer	Sequence 5' → 3'
AN_qPCR_hist_FW	ACAATGACTGGCCGTGGAAAGG
AN_qPCR_hist_RV	ATACGCTTGACACCACCACGAC
AN_qPCR_aqpA_FW	CGCTATGCTTTGGGTCTCTG
AN_qPCR_aqpA_RV	CCAGACACAGGGCCAGAGTGACCG
AN_qPCR_aqpB_FW	CCACGGATATTCCGAAGACGGATG
AN_qPCR_aqpB_RV	AGAGTGATGGCGATGGTTGTCC
AN_qPCR_aqpC_FW	CGGTGGTGGGAATGCGTTGGAACC
AN_qPCR_aqpC_RV	GGAGAGGGGGGAGCCACATTCG
AN_qPCR_aqpD_FW	ACTCCCGGACAATGGCGTAAAC
AN_qPCR_aqpD_RV	ATGGCAGCACCAACAAATCCAC
AN_qPCR_aqpE_FW	TGGTGAATCGCCGGTCAACTAC
AN_qPCR_aqpE_RV	TCATCCGACTCTTTCGCATCGC
AN_qPCR_aqpF_FW	TGACAGGACGGACCCTAAGAAC
AN_qPCR_aqpF_RV	GCTATGCATTCTAGCACTGCGAAC
AN_qPCR_aqpG_FW	ATCCCGGTGCAAGATCTAATG
AN_qPCR_aqpG_RV	CGAGACTACCATCCTCATCAAAG
AN_qPCR_goxC_FW	AATGCTGCCCCGTGTGTATGGTG
AN_qPCR_goxC_RV	TGGGACGACATTTGCGTAGGAG
AN_qPCR_catR_FW	GCTGAAGTTGAACAGGCTGGTTTC
AN_qPCR_catR_RV	TCGGTGAAGTCAATGCCAGGAAC
AN_qPCR_lctA_FW	CGGAAATTGCCATCTCACC
AN_qPCR_lctA_RV	GGCGATGGAATCGTTGTTG

Remark:

AN: primer for *A. niger* experiments

C: Primers for *A. niger* experiment

Primer	Sequence 5' → 3'
AN_aqpD_FW	ATGTTTCTCAACACTGGCCTCTCG
AN_aqpD_RV	TTAGTGCAGCCGCAGAGCACCG
AN_aqpD_KO_p1	GGAGTCCCTCTACCTTTCCAGG
AN_aqpD_KO_p2	<u>CAATTCCAGCAGCGGCTTGGGA</u> AAGATTCGTAGGGGTACCG
AN_aqpD_KO_p3	<u>ACACGGCACAATTATCCATCGCGATACTGGCTGGAATAGAG</u> G
AN_aqpD_KO_p4	CGCCAAGAACAGTGTGTCC
AN_aqpD_KO_p11	GGTGCCGAGTCCGTTCCGCC
AN_aqpD_KO_p12	CCAACCTTACCAAAGAATTCC
AN_aqpE_FW	ATGGACGACGGGGAGACCAGG
AN_aqpE_RV	TCAACGAACAGTCTTCTCTCCC
AN_aqpE_KO_p1	GGAGCAAGAATCAAGGAACG
AN_aqpE_KO_p2	<u>CAATTCCAGCAGCGGCTTGGGCGAAGGGTGATAAAATTGCT</u> CC
AN_aqpE_KO_p3	<u>ACACGGCACAATTATCCATCGCCAGATTGTTTGAGAATGCC</u>
AN_aqpE_KO_p4	GCGGCAAAGTTAGGCGACTCC
AN_aqpE_KO_p11	CCTCGGAAGACACAATGGATCG
AN_aqpE_KO_p12	CGAATGCGAGCAGCGAAACAGGG
AN_aqpF_FW	ATGGTGGTCACTTATCTCCCCG
AN_aqpF_RV	TTACTCCGCGCGAGGATCCTTCC
AN_aqpF_KO_p1	CGCTAAGATCGCTGGCACGCG
AN_aqpF_KO_p2	<u>CAATTCCAGCAGCGGCTTGGGGCTGCTATCAAGATAAG</u> TG
AN_aqpF_KO_p3	<u>ACACGGCACAATTATCCATCGCATGGGAACGGAGTGTC</u> GG
AN_aqpF_KO_p4	GGCTGCAGATAAGCTGGACG
AN_aqpF_KO_p11	CCGAAAGTATTTACAGTTGAC
AN_aqpF_KO_p12	GCGCTCTGATGTCTGGTCGG
AN_AOpyrG12FW_p5	AAGCCGCTGCTGGAATTG
AN_AOpyrG13RV_p6	CGATGGATAATTGTGCCGTGT

Primer	Sequence 5' → 3'
AN_AOpyrG14FW_p7	ATTGACCTACAGCGCACGC
AN_AOpyrG15RV_p8	CCGGTAGCCAAAGATCCCTT
AN_AOpyrGintFW_p14	GGCAATTGTCGTGCAGTTTG
AN_AOpyrGintRV_p13	AATTCCACGGCCAGCAATAA

Remark:

underline letter: overlapped sequences of *pyrG* gene