

Table S5 - DNA oligos used in this study

Primer name	sequence (5' – 3')	target
OG1565	ACGGAAATTGGTACAAATTG TGG	<i>ogt-1(dr20)</i>
OG1566	TCCCGGATGCATACTGTAATC	<i>ogt-1(dr20)</i>
OG1567	CCAAGCATTGGAACATGAACC	<i>ogt-1(dr20)</i>
OG1568	GACAGCTCTCAAGCTGAAACCAG	<i>ogt-1(dr20)</i>
OG1569	GATCAGCGTGGATGAGTGGTGTC	<i>ogt-1(dr20)</i>
OG1570	TATGATAAACGAGTACGGAAATTGGTACA AATTGT CGAAGATC AGCTTTGCAAGAAACGTCTTCCATCGGTT CATCCA	<i>ogt-1(dr20)</i>
OG1571	TATGATAAACGAGTACGGAAATTGGTACA AATTGT CGAAGATT AGCTTTGCAAGAAACGTCTTCCATCGGTT CATCCA	<i>ogt-1</i>
OG1544	ACTATCACTTA ATCATACTC TGG	<i>gpdh-1</i>
OG1546	ATGAGTAAAGGAGAAGAACT	pPD95.75
OG1547	TTTGTATAGTTCATCCATGC	pPD95.75
OG1548	CTGGAGATCAATGAAATCTCGGAAAAGTT CCCAATCTTCGCGTCAGTGCATAAGGTGT TCACCGGGCACCCACGGAGAGCAGGAGCT CTATGATTCCCTGAGAAACCATCCGGAAT ACGACATGAGTAAAGGAGAAGAACT	pPD95.75

OG1549	AAAATTGTACAATATACATACATAAATACC AGTAAAAAAGATTCAAAAACACGTGTTTTT TCTTTATATCCGCTAGATCCATTTCCAGC TCGTCAATAAAACACATAAAACTATCACTT ATTTGTATAGTTCATCCATGC	pPD95.75
OG1708	TCAGTGCATAAGGTGTTACCCG	<i>gpdh-1</i>
OG1709	CTTTATATCCGCTAGATCCAT	<i>gpdh-1</i>
OG1710	CTCGGAAAAGTTCCCAATCTTC	<i>gpdh-1</i>
OG1711	CCAGTAAAAAAGATTCAAAAACACG	<i>gpdh-1</i>
OG1664	GCTTGTGAATAGATTTTCGA AGG	<i>ogt-1</i>
OG1665	ATATCACTAATAATACGGAAACGCCACAC GGCTTGATGAGTAAAGGAGAAGAACTTTT C	pPD95.75
OG1666	GAAATTATACAAAATATACAATTTTTTAA AAATCGTTCGAAAATCTATTCATTTGTATA GTTTCATCCATGCCATG	pPD95.75
OG1667	CTCACAGAGGTTCAACATTTTTTCC	<i>ogt-1</i>
OG1668	GAGCACTGAGGAGTAATACG	<i>ogt-1</i>
OG1669	TTTCAGCTTGGCGAACATGCGT	<i>ogt-1</i>
OG1670	GGTTTCCAATATGGAAAATC	<i>ogt-1</i>
OG1746	CTTGCCAGCATAACACAAGGATGC	<i>ogt-1</i>
OG1747	ATATGGCAGAAGCTATTCAAAG	<i>ogt-1</i>
OG1748	CCAAGCATTTGAACATGAACCTG	<i>ogt-1</i>
OG1749	TCGATCAGCGTGGATGAGTGGTG	<i>ogt-1</i>

OG1770	GGATAAAGCATACTGTGATG TGG	<i>ogt-1</i>
OG1771	ATTGTGGAAGATCAGCTTTGCAAGAAACG TCTTCCCTCAGTTCATCCAGCTCATTCTA TGCTCTACCCGCTTTCACATGCGGCTCG GATTGCAATTGCTGCAAA	<i>ogt-1</i>
OG1774	CAGAAGTAGTAAGTGGACCCAAC	<i>ogt-1</i>
OG1775	CCAATCAAGCAAATGATCATG	<i>ogt-1</i>
OG1776	AAGCCAAAGAATTGATTTCCGG	<i>ogt-1</i>
OG1777	CCTCTCTCTACACAATACTTTCCG	<i>ogt-1</i>
OG1772	ATCCACATGTCGAGAGTCGA TGG	<i>ogt-1</i>

OG1773	atgctattgtgtttgcaattcaatcagctttacATGattgatc catctacctagatatgtggattaaaattctcgagaatgtccg aatcaattcttg	<i>ogt-1</i>
OG1807	tacagaaaagtcactgaat tgg	<i>ogt-1</i>
OG1808	gtcatcaaataattgtgat tgg	<i>ogt-1</i>
OG1806	gaacaattgaaaatataaattggtttacagaaaa aatgattatgataaacgagtacggaattgtaca	<i>ogt-1</i>
OG1814	actctgaaccgttagtcctc	<i>ogt-1</i>
OG1815	ccatcattcacagaaagtgc	<i>ogt-1</i>
OG1816	ctttgaaccgcatagaaca	<i>ogt-1</i>
OG1817	tccattgcatggaatctgcg	<i>ogt-1</i>
OG1818	agctgaaaccagatttcccg	<i>ogt-1</i>
OG1487	AAAGTGGGGGGAGTTGAGAGT	<i>ogt-1</i>
OG1488	AAAATTTGTGTAGTGTTTT	<i>ogt-1</i>
OG1649	TCTAAATACACTCACGTGACGCGTGGATC CC	pPD61.125
OG1650	CTCCCCCACTTTGGCTAGCCATGGAAC CGG	pPD61.125
OG1651	CCATGGCTAGCCAAAGTGGGGGGAGTTG AG	<i>ogt-1</i> promoter
OG1652	ATTGGGCTTCTCCATCGTCTAATCCATTC GATATAATTC	<i>ogt-1</i> promoter
OG1653	GGATTAGACGATGGAGAAGCCCAATTAC TTTCAGTC	<i>ogt-1</i> cDNA
OG1654	GAAATCTATTCACAAGCCGTGTGGCGTT TC	<i>ogt-1</i> cDNA

OG1655	CCACACGGCTTGTGAATAGATTTTCGAAG GATTTTTAAAAATTG	<i>ogt-1</i> 3'utr
OG1656	CACGCGTCACGTGAGTGTATTTAGACGA GATTC	<i>ogt-1</i> 3'utr
OG1680	CAGATAAATGGAGAAGCCCAATTACTTTC AGTCG	<i>ogt-1p::ogt-1</i> cDNA:: <i>ogt-1</i> 3'utr
OG1681	TTGGTAGGGAGGCTAGCCATGGAACCGG	<i>ogt-1p::ogt-1</i> cDNA:: <i>ogt-1</i> 3'utr
OG1682	ATGGCTAGCCTCCCTACCAATTGAAAATT C	<i>dpy-7</i> promoter
OG1683	TGGGCTTCTCCATTTATCTGGAACAAAT GTAAG	<i>dpy-7</i> promoter
OG1684	TTAAATCATGGAGAAGCCCAATTACTTTC AGTCG	<i>ogt-1p::ogt-1</i> cDNA:: <i>ogt-1</i> 3'utr
OG1685	TTTATTCAACGGCTAGCCATGGAACCGG	<i>ogt-1p::ogt-1</i> cDNA:: <i>ogt-1</i> 3'utr
OG1686	ATGGCTAGCCGTTGAATAAACGCTTAGTC	<i>nhx-2</i> promoter
OG1687	TGGGCTTCTCCATGATTTAATCACTGAAA ATTATTTTC	<i>nhx-2</i> promoter
OG1692	CCATCTAGAAATGGAGAAGCCCAATTACT TTCAG	<i>ogt-1p::ogt-1</i> cDNA:: <i>ogt-1</i> 3'utr
OG1693	cggccagaccGGCTAGCCATGGAACCGG	<i>ogt-1p::ogt-1</i> cDNA:: <i>ogt-1</i> 3'utr
OG1694	atggctagccGGTCTGGCCGCAAAAAGG	<i>myo-3p</i>
OG1695	GCTTCTCCATTTCTAGATGGATCTAGTGG TCG	<i>myo-3p</i>
OG1696	GAAGAAGACCATGGAGAAGCCCAATTAC TTTCAG	<i>ogt-1p::ogt-1</i> cDNA:: <i>ogt-1</i> 3'utr

OG1697	AAGATGCACTGGCTAGCCATGGAACCGG	<i>ogt-1p::ogt-1 cDNA::ogt-1 3'utr</i>
OG1698	ATGGCTAGCCAGTGCATCTTCTTTTGAGA ATTC	<i>rab-3p</i>
OG1699	GCTTCTCCATGGTCTTCTTCGTTTCCGC	<i>rab-3p</i>
OG1700	TTAGACGATGGCGTCTTCCGTGGGCAAC	human <i>ogt</i> isoform 1
OG1701	AATCTATTCATGCTGACTCAGTGACTTCA ACAG	human <i>ogt</i> isoform1
OG1702	TGAGTCAGCATGAATAGATTTTTCGAAGGA TTTTTAAAAAATTG	<i>ogt-1p::ogt-1 cDNA::ogt-1 3'utr</i>
OG1703	CGGAAGACGCCATCGTCTAATCCATTCCG	<i>ogt-1p::ogt-1 cDNA::ogt-1 3'utr</i>
OG535	CCCAATCCAAGAGAGGTATCCTT	<i>act-2</i>
OG536	GAAGCTCGTTGTAGAAAGTGTGATG	<i>act-2</i>
OG592	TGCAGAGATTCCAGGAAACCAGG	<i>gpdh-1</i>
OG593	CCCTTTTGTAGCTTGCCACGGAG	<i>gpdh-1</i>
OG876	CCATTGAAGAGGTAGAAATGC	<i>hmit-1.1</i>
OG877	TGTACTTCATTGTGTTGTCC	<i>hmit-1.1</i>
OG878	GAGGATATGGAAGAGGATATGG	<i>nlp-29</i>
OG879	GTATCCTCCGTACATTCCAC	<i>nlp-29</i>
OG1342	TACCTGTTCCATGGCCAACACTTGTC	<i>GFP</i>
OG1343	CTTTCCTGTACATAACCTTCGGGC	<i>GFP</i>

Purpose

guide RNA for CRISPR/Cas9 conversion of the *dr20* SNP back to WT and the addition of the *dr20* SNP

inner nested *dr20* genotyping forward primer

inner nested *dr20* genotyping reverse primer

outer nested *dr20* genotyping outer nested forward primer

outer nested *dr20* genotyping reverse primer

ssODN repair template for CRISPR/Cas9 conversion of the *dr20* SNP back to WT

ssODN repair template for CRISPR/Cas9 addition of the *dr20* SNP

guide RNA for CRISPR/Cas9 C-terminal addition of GFP

amplification of GFP for CRISPR/Cas9 C-terminal addition of GFP to *gpdh-1*

amplification of GFP for CRISPR/Cas9 C-terminal addition of GFP to *gpdh-1*

forward primer used to amplify GFP for CRISPR/Cas9 C-terminal *gpdh-1* insertion of GFP, includes 120 bp homology overhangs to site of insertion

reverse primer used to amplify GFP for CRISPR/Cas9 C-terminal *gpdh-1* insertion of GFP, includes 120 bp homology overhangs to site of insertion

inner nested *gpdh-1::GFP* genotyping forward primer

inner nested *gpdh-1::GFP* genotyping reverse primer

outer nested *gpdh-1::GFP* genotyping forward primer

outer nested *gpdh-1::GFP* genotyping reverse primer

guide RNA for CRISPR/Cas9 C-terminal addition of GFP

5' Sp9-modified forward primer used to amplify GFP for CRISPR/Cas9 C-terminal *ogt-1* insertion of GFP, includes 35 bp homology overhangs to site of insertion

5' Sp9-modified reverse primer used to amplify GFP for CRISPR/Cas9 C-terminal *ogt-1* insertion of GFP, includes 35 bp homology overhangs to site of insertion

outer nested *ogt-1::GFP* genotyping forward primer

outer nested *ogt-1::GFP* genotyping reverse primer

inner nested *ogt-1::GFP* genotyping forward primer

inner nested *ogt-1::GFP* genotyping reverse primer

outer nested OGT-1 H612A genotyping forward primer

inner nested OGT-1 H612A genotyping forward primer

inner nested OGT-1 H612A genotyping reverse primer

outer nested OGT-1 H612A genotyping reverse primer

guide RNA for CRISPR/Cas9
conversion of the OGT-1
H612A SNP

ssODN repair template for
CRISPR/Cas9 conversion of
the OGT-1 H612A SNP

outer nested OGT-1 K957M
genotyping forward primer

inner nested OGT-1 K957M
genotyping forward primer

inner nested OGT-1 K957M
genotyping reverse primer

outer nested OGT-1 K957M
genotyping reverse primer

guide RNA for CRISPR/Cas9
conversion of the OGT-1
K957M SNP

ssODN repair template for
CRISPR/Cas9 conversion of
the OGT-1 K957M SNP

guide RNA #1 for
CRISPR/Cas9 deletion of the
TPR domain

guide RNA #2 for
CRISPR/Cas9 deletion of the
TPR domain

ssODN repair template for
CRISPR/Cas9 deletion of the
TPR domain

inner nested OGT-1 Δ TPR
genotyping forward primer

inner nested OGT-1 Δ TPR
genotyping reverse primer

outer nested OGT-1 Δ TPR
genotyping forward primer

outer nested OGT-1 Δ TPR
genotyping reverse primer

internal deletion OGT-1 Δ TPR
genotyping forward primer

forward primer for genomic
ogt-1

reverse primer for genomic
ogt-1

forward primer for Gibson
assembly

Gibson assembly reverse
primer

Gibson assembly forward
primer for *ogt-1* promoter

Gibson assembly reverse
primer for *ogt-1* promoter

Gibson assembly forward
primer for *ogt-1* cDNA

Gibson assembly reverse
primer for *ogt-1* cDNA

Gibson assembly forward primer for *ogt-1* 3'utr

Gibson assembly reverse primer for *ogt-1* 3'utr

Gibson assembly forward primer for *dpy-7p* backbone

Gibson assembly reverse primer for *dpy-7p* backbone

Gibson assembly forward primer for *dpy-7p*

Gibson assembly reverse primer for *dpy-7p*

Gibson assembly forward primer for *nhx-2p* backbone

Gibson assembly reverse primer for *nhx-2p* backbone

Gibson assembly forward primer for *nhx-2p*

Gibson assembly reverse primer for *nhx-2p*

Gibson assembly forward primer for *myo-3p* backbone

Gibson assembly reverse primer for *myo-3p* backbone

Gibson assembly forward primer for *myo-3p*

Gibson assembly reverse primer for *myo-3p*

Gibson assembly forward primer for *rab-3p* backbone

Gibson assembly reverse primer for *rab-3p* backbone

Gibson assembly forward primer for *rab-3p*

Gibson assembly reverse primer for *rab-3p*

Gibson assembly forward primer for human *ogt-1*

Gibson assembly reverse primer for human *ogt-1*

Gibson assembly forward primer for human *ogt* backbone

Gibson assembly reverse primer for human *ogt* backbone

qPCR forward primer

qPCR reverse primer

qPCR forward primer

qPCR reverse primer

qPCR forward primer

qPCR reverse primer

qPCR forward primer

qPCR reverse primer

qPCR forward primer

qPCR reverse primer