

Supplementary Figure 2 – Alignment of GIFT *amh*, *amhy*, and *amhΔy* open reading frame (ORF) and their encoded amino acid sequences. Coding sequence conservation is shaded and encoded amino acids are marked as alternating bold to demarcate exon boundaries. Missense single nucleotide polymorphisms contributing to amino acid change is marked in blue on the encoded amino acid sequence.

		10.....20.....30.....40.....50.....60
GIFT_amh	1	ATGTTGGGTCTGCTCGTTCTTTACAGCGAGGCGCTGACACTCTGCTGGACCCTGCAACCG
GIFT_amhy	1	ATGTTGGGTCTGCTCGTTCTTTACAGCGAGGCGCTGACACTCTGCTGGACCCTGCAACCG
GIFT_amhΔy	1	ATGTTGGGTCTGCTCGTTCTTTACAGCGAGGCGCTGACACTCTGCTGGACCCTGCAACCG
		<u> M L G L L V L Y S E A L T L C W T L Q P </u>
		<u> M L G L L V L Y S E A L T L C W T L Q P </u>
		<u> M L G L L V L Y S E A L T L C W T L Q P </u>
		70.....80.....90.....100.....110.....120
GIFT_amh	61	CCCCAGGACCCACAGTAACCGAGTACTCACTCCCATCAGCGAAGACCCCATCATCACCA
GIFT_amhy	61	CCCCAGGACCCACAGTAACCGAGTACTCACTCCCATCAGCGAAGACCCCATCATCACCA
GIFT_amhΔy	61	CCCCAGGACCCACAGTAACCGAGTACTCACTCCCATCAGCGAAGACCCCATCATCACCA
		<u> A Q D P T V T E Y S L P S A K T P S S P </u>
		<u> A Q D P T V T E Y S L P S A K T P S S P </u>
		<u> A Q D P T V T E Y S L P S A K T P S S P </u>
		130.....140.....150.....160.....170.....180
GIFT_amh	121	TCATCATCCTCAGCAGCAGCGCCTCATGCTGCACCATGCTTCGTGGAGGACATCTTTGCA
GIFT_amhy	121	TCATCATCCTCAGCAGCAGCGCCTCATGCTGCACCATGCTTCGTGGAGGACATCTTTGCA
GIFT_amhΔy	121	TCATCATCCTCAGCAGCAGCGCCTCATGCTGCACCATGCTTCGTGGAGGACATCTTTGCA
		<u> S S S S A A A P H A A P C F V E D I F A </u>
		<u> S S S S A A A P H A A P C F V E D I F A </u>
		<u> S S S S A A A P H A A P C F V E D I F A </u>
		190.....200.....210.....220.....230.....240
GIFT_amh	181	GCGTTGCGTGATGGTGTGGGGGACAGCGGCGAACTGACAAACAGCAGTTTGTTTCTGTTT
GIFT_amhy	181	GCGTTGCGTGATGGTGTGGGGGACAGCGGCGAACTGACAAACAGCAGTTTGTTTCTGTTT
GIFT_amhΔy	181	GCGTTGCGTGATGGTGTGGGGGACAGCGGCGAACTGACAAACAGCAGTTTGTTTCTGTTT
		<u> A L R D G V G D S G E L T N S S L V L F </u>
		<u> A L R D G V G D S G E L T N S S L V L F </u>
		<u> A L R E G V G D S G E L T N S S L V L F </u>
		250.....260.....270.....280.....290.....300
GIFT_amh	241	GGATTCTGCTCGCAGTCTGCCCCGCTCATCAGCCTCGGTCTCGTTAGACCTCGCTAACAAG
GIFT_amhy	241	GGATTCTGCTCGCAGTCTGCCCCGCTCATCAGCCTCGGTCTCGTTAGACCTCGCTAACAAG
GIFT_amhΔy	241	GGATTCTGCTCGCAGTCTGCCCCGCTCATCAGCCTCGGTCTCGTTAGACCTCGCTAACAAG
		<u> G F C S Q S A R S S A S V S L D L A N K </u>
		<u> G F C S Q S A R S S A S V S L D L A N K </u>
		<u> G F C S Q S A R S S A S V S L D L A N K </u>
		310.....320.....330.....340.....350.....360
GIFT_amh	301	AAGAGCAGCTTGGAGGTTTCTGCACCCAGCTGCAGTACACGTATCAGAGGAAGAGGAGCAA
GIFT_amhy	301	AAGAGCAGCTTGGAGGTTTCTGCACCCAGCTGCAGTACACGTATCAGAGGAAGAGGAGCAA
GIFT_amhΔy	301	AAGAGCAGCTTGGAGGTTTCTGCACCCAGCTGCAGTACACGTATCAGAGGAAGAGGAGCAA
		<u> K S S L E V L H P A A V H V S E E E E Q </u>
		<u> K S S L E V L H P A A V H V S E E E E Q </u>
		<u> K S S L E V L H P A A V H V S E E E E Q </u>
		370.....380.....390.....400.....410.....420
GIFT_amh	361	GGAACAATCACGTTGACCTTTGACCTCCCACGGCCTCCATCGCTCATGACAAACCCTGTG
GIFT_amhy	361	GGAACAATCACGTTGACCTTTGACCTCCCACGGCCTCCATCGCTCATGACAAACCCTGTG
GIFT_amhΔy	361	GGAACAATCACGTTGACCTTTGACCTCCCACGGCCTCCATCGCTCATGACAAACCCTGTG
		<u> G T I T L T F D L P R P P S L M T N P V </u>
		<u> G T I T L T F D L P R P P S L M T N P V </u>
		<u> G T I T L T F D L P R P P S L M T N P V </u>
		430.....440.....450.....460.....470.....480
GIFT_amh	421	CTGCTCTTGGTCTTTGAAAATCCACTGGCAGGAGGAGACCTGGAAGTTGCTTTCACTAGT
GIFT_amhy	421	CTGCTCTTGGTCTTTGAAAATCCACTGGCAGGAGGAGACCTGGAAGTTGCTTTCACTAGT
GIFT_amhΔy	421	CTGCTCTTGGTCTTTGAAAATCCACTGGCAGGAGGAGACCTGGAAGTTGCTTTCACTAGT
		<u> L L L V F E N P L A R G D L E V A F T S </u>
		<u> L L L V F E N P L A R G D L E V A F T S </u>
		<u> L L L V F E S P L A R G D L E V A F T S </u>
		490.....500.....510.....520.....530.....540
GIFT_amh	481	CAGTTTCTGCAGCCTAACACGCAGGCTGTGTGCATTTTCAGGAGACACACAGTACGTACTG

GIFT_amhy	481	CAGTTTCTGCAGCCTAACACGCAGGCTGTGTGCATTTTCAGGAGACACACAGTACGTACTG
GIFT_amhΔy	481	CAGTTTCTGCAGCCTAACACGCAGGCTGTGTGCATTTTCAGGAGACACACAGTACGTACTG
		<u>Q</u> <u>F</u> <u>L</u> <u>Q</u> <u>P</u> <u>N</u> <u>T</u> <u>Q</u> <u>A</u> <u>V</u> <u>C</u> <u>I</u> <u>S</u> <u>G</u> <u>D</u> <u>T</u> <u>Q</u> <u>Y</u> <u>V</u> <u>L</u>
		<u>Q</u> <u>F</u> <u>L</u> <u>Q</u> <u>P</u> <u>N</u> <u>T</u> <u>Q</u> <u>A</u> <u>V</u> <u>C</u> <u>I</u> <u>S</u> <u>G</u> <u>D</u> <u>T</u> <u>Q</u> <u>Y</u> <u>V</u> <u>L</u>
		<u>Q</u> <u>F</u> <u>L</u> <u>Q</u> <u>P</u> <u>N</u> <u>T</u> <u>Q</u> <u>A</u> <u>V</u> <u>C</u> <u>I</u> <u>S</u> <u>G</u> <u>D</u> <u>T</u> <u>Q</u> <u>Y</u> <u>V</u> <u>L</u>
		550.....560.....570.....580.....590.....600
GIFT_amh	541	CTGACAGGAAAAATCATCAGAGGGGAGTGTTAATGACAGGTGGCAGATTACGGCTCAGACA
GIFT_amhy	541	CTGACAGGAAAAATCATCAGAGGGGAGTGTTAATGACAGGTGGCAGATTACGGCTCAGACA
GIFT_amhΔy	541	CTGACAGGAAAAATCATCAGAGGGGAGTGTTAATGACAGGTGGCAGATTACGGCTCAGACA
		<u>L</u> <u>T</u> <u>G</u> <u>K</u> <u>S</u> <u>S</u> <u>E</u> <u>G</u> <u>S</u> <u>V</u> <u>N</u> <u>D</u> <u>R</u> <u>W</u> <u>Q</u> <u>I</u> <u>T</u> <u>A</u> <u>Q</u> <u>T</u>
		<u>L</u> <u>T</u> <u>G</u> <u>K</u> <u>S</u> <u>S</u> <u>E</u> <u>G</u> <u>S</u> <u>V</u> <u>N</u> <u>D</u> <u>R</u> <u>W</u> <u>Q</u> <u>I</u> <u>T</u> <u>A</u> <u>Q</u> <u>T</u>
		<u>L</u> <u>T</u> <u>G</u> <u>K</u> <u>S</u> <u>S</u> <u>E</u> <u>G</u> <u>S</u> <u>V</u> <u>N</u> <u>D</u> <u>R</u> <u>W</u> <u>Q</u> <u>I</u> <u>T</u> <u>A</u> <u>Q</u> <u>T</u>
		610.....620.....630.....640.....650.....660
GIFT_amh	601	AAACTCCCTCATATGAAGCAAAACCTAAAAAGCATCTTGATTGGTGAAAAATCAGGAAGT
GIFT_amhy	601	AAACTCCCTCATATGAAGCAAAACCTAAAAAGCATCTTGATTGGTGAAAAATCAGGAAGT
GIFT_amhΔy	601	AAACTCCCTCATATGAAGCAAAACCTAAAAAGCATCTTGATTGGTGAAAAATCAGGAAGT
		<u>K</u> <u>L</u> <u>P</u> <u>H</u> <u>M</u> <u>K</u> <u>Q</u> <u>N</u> <u>L</u> <u>K</u> <u>S</u> <u>I</u> <u>L</u> <u>I</u> <u>G</u> <u>E</u> <u>K</u> <u>S</u> <u>G</u> <u>S</u>
		<u>K</u> <u>L</u> <u>P</u> <u>H</u> <u>M</u> <u>K</u> <u>Q</u> <u>N</u> <u>L</u> <u>K</u> <u>S</u> <u>I</u> <u>L</u> <u>I</u> <u>G</u> <u>E</u> <u>K</u> <u>S</u> <u>G</u> <u>S</u>
		<u>K</u> <u>L</u> <u>P</u> <u>H</u> <u>M</u> <u>K</u> <u>Q</u> <u>N</u> <u>L</u> <u>K</u> <u>S</u> <u>I</u> <u>L</u> <u>I</u> <u>G</u> <u>E</u> <u>K</u> <u>S</u> <u>G</u> <u>S</u>
		670.....680.....690.....700.....710.....720
GIFT_amh	661	AACATCAGCATGAGTCCACTTCTACTTTTCTCCGGGGGAACGGGAAGTACGATGATGT
GIFT_amhy	661	AACATCAGCATGAGTCCACTTCTACTTTTCTCCGGGGGAACGGGAAGTACGATGATGT
GIFT_amhΔy	661	AACATCAGCATGAGTCCACTTCTACTTTTCTCCGGGGGAACGGGAAGTACGATGATGT
		<u>N</u> <u>I</u> <u>S</u> <u>M</u> <u>S</u> <u>P</u> <u>L</u> <u>L</u> <u>L</u> <u>F</u> <u>S</u> <u>G</u> <u>G</u> <u>T</u> <u>G</u> <u>T</u> <u>D</u> <u>T</u> <u>R</u> <u>C</u>
		<u>N</u> <u>I</u> <u>S</u> <u>M</u> <u>S</u> <u>P</u> <u>L</u> <u>L</u> <u>L</u> <u>F</u> <u>S</u> <u>G</u> <u>G</u> <u>T</u> <u>G</u> <u>T</u> <u>D</u> <u>T</u> <u>R</u> <u>C</u>
		<u>N</u> <u>I</u> <u>S</u> <u>M</u> <u>S</u> <u>P</u> <u>L</u> <u>L</u> <u>L</u> <u>F</u> <u>S</u> <u>G</u> <u>G</u> <u>T</u> <u>G</u> <u>T</u> <u>D</u> <u>T</u> <u>R</u> <u>C</u>
		730.....740.....750.....760.....770.....780
GIFT_amh	721	GCTTCAGGCTCGCCCCCGGCATCTCTGCAAACCTCCTTCCTTTGTGAGATGAAACGCTTC
GIFT_amhy	721	GCTTCAGGCTCGCCCCCGGCATCTCTGCAAACCTCCTTCCTTTGTGAGATGAAACGCTTC
GIFT_amhΔy	721	GCTTCAGGCTCGCCCCCGGCATCTCTGCAAACCTCCTTCCTTTGTGAATGTCGATGA---
		<u>A</u> <u>S</u> <u>G</u> <u>S</u> <u>P</u> <u>P</u> <u>A</u> <u>S</u> <u>L</u> <u>Q</u> <u>T</u> <u>S</u> <u>F</u> <u>L</u> <u>C</u> <u>E</u> <u>M</u> <u>K</u> <u>R</u> <u>F</u>
		<u>A</u> <u>S</u> <u>G</u> <u>S</u> <u>P</u> <u>P</u> <u>A</u> <u>S</u> <u>L</u> <u>Q</u> <u>T</u> <u>S</u> <u>F</u> <u>L</u> <u>C</u> <u>E</u> <u>M</u> <u>K</u> <u>R</u> <u>F</u>
		<u>A</u> <u>S</u> <u>G</u> <u>S</u> <u>P</u> <u>P</u> <u>A</u> <u>S</u> <u>L</u> <u>Q</u> <u>T</u> <u>S</u> <u>F</u> <u>L</u> <u>C</u> <u>E</u> <u>C</u> <u>R</u> <u>-</u>
		790.....800.....810.....820.....830.....840
GIFT_amh	781	CTGGGTGCTGTTCTCCCTCAGGAACACTTCACGTCCCCTCCACTTCCTCTGGACTCCTTA
GIFT_amhy	781	CTGGGTGCTGTTCTCCCTCAGGAACACTTCACGTCCCCTCCACTTCCTCTGGACTCCTTA
GIFT_amhΔy	768	-----
		<u>L</u> <u>G</u> <u>A</u> <u>V</u> <u>L</u> <u>P</u> <u>Q</u> <u>E</u> <u>H</u> <u>F</u> <u>T</u> <u>S</u> <u>P</u> <u>P</u> <u>L</u> <u>P</u> <u>L</u> <u>D</u> <u>S</u> <u>L</u>
		<u>L</u> <u>G</u> <u>A</u> <u>V</u> <u>L</u> <u>P</u> <u>Q</u> <u>E</u> <u>H</u> <u>F</u> <u>T</u> <u>S</u> <u>P</u> <u>P</u> <u>L</u> <u>P</u> <u>L</u> <u>D</u> <u>S</u> <u>L</u>
		<u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u>
		850.....860.....870.....880.....890.....900
GIFT_amh	841	CAGTCTCTGCCTCCCCCTCTCGCTTGGCTTATCCTCCAGCGAGACCCTGCTGGCAGTAATG
GIFT_amhy	841	CAGTCTCTGCCTCCCCCTCTCGCTTGGCTTATCCTCCAGCGAGACCCTGCTGGCAGTAATG
GIFT_amhΔy	768	-----
		<u>Q</u> <u>S</u> <u>L</u> <u>P</u> <u>P</u> <u>L</u> <u>S</u> <u>L</u> <u>G</u> <u>L</u> <u>S</u> <u>S</u> <u>S</u> <u>E</u> <u>T</u> <u>L</u> <u>L</u> <u>A</u> <u>V</u> <u>M</u>
		<u>Q</u> <u>S</u> <u>L</u> <u>P</u> <u>P</u> <u>L</u> <u>S</u> <u>L</u> <u>G</u> <u>L</u> <u>S</u> <u>S</u> <u>S</u> <u>E</u> <u>T</u> <u>L</u> <u>L</u> <u>A</u> <u>V</u> <u>M</u>
		<u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u>
		910.....920.....930.....940.....950.....960
GIFT_amh	901	ATCAACTCCACAGCTCCCACAGTCTTTGGCTTCACGAGCTGGGGCTCCGTGTTGCCGGTG
GIFT_amhy	901	ATCAACTCCACAGCTCCCACAGTCTTTGGCTTCACGAGCTGGGGCTCCGTGTTGCCGGTG
GIFT_amhΔy	768	-----
		<u>I</u> <u>N</u> <u>S</u> <u>T</u> <u>A</u> <u>P</u> <u>T</u> <u>V</u> <u>F</u> <u>G</u> <u>F</u> <u>T</u> <u>S</u> <u>W</u> <u>G</u> <u>S</u> <u>V</u> <u>L</u> <u>P</u> <u>V</u>
		<u>I</u> <u>N</u> <u>S</u> <u>T</u> <u>A</u> <u>P</u> <u>T</u> <u>V</u> <u>F</u> <u>G</u> <u>F</u> <u>T</u> <u>S</u> <u>W</u> <u>G</u> <u>S</u> <u>V</u> <u>L</u> <u>P</u> <u>V</u>
		<u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u>
		970.....980.....990.....1000.....1010.....1020
GIFT_amh	961	TGCCACGGAGAGCTGGCCCTGTCTGCTGCACTGTTAGAGGAGCTCAGACAGAGACTGGAC
GIFT_amhy	961	TGCCACGGAGAGCTGGCCCTGTCTGCTGCACTGTTAGAGGAGCTCAGACAGAGACTGGAC
GIFT_amhΔy	768	-----

C H G E L A L S A A L L E E L R Q R L D
C H G E L A L S A A L L E E L R Q R L D
- - - - -

.....1030.....1040.....1050.....1060.....1070.....1080
GIFT_amh 1021 CAGACTTTGGTGCAAATGACAGAAATAATCAGAGAGGAAGAGGTTTCACCGGGAGCCAAG
GIFT_amhy 1021 CAGACTTTGGTGCAAATGACAGAAATAATCAGAGAGGAAGAGGTTTCACCGGGAGCCAAG
GIFT_amhΔy 768 -----

Q T L V Q M T E I I R E E E V S P G A K
Q T L V Q M T E I I R E E E V S P G A K
- - - - -

.....1090.....1100.....1110.....1120.....1130.....1140
GIFT_amh 1081 GAGAGCCTGGGGAGGCTCAAAGAAGTGAAGTGCCTTACAGGAGAAAGAATGCCACAGGA
GIFT_amhy 1081 GAGAGCCTGGGGAGGCTCAAAGAAGTGAAGTGCCTTACAGGAGAAAGAATGCCACAGGA
GIFT_amhΔy 768 -----

E S L G R L K E L S A L Q E K E H A T G
E S L G R L K E L S A L Q E K E H A T G
- - - - -

.....1150.....1160.....1170.....1180.....1190.....1200
GIFT_amh 1141 GGGAGTCAGTTCCGTGGTGTCTTCTCTGCTGAAGGCTCTGCAGACGGTGGCCCAAACGTAC
GIFT_amhy 1141 GGGAGTCAGTTCCGTGGTGTCTTCTCTGCTGAAGGCTCTGCAGACGGTGGCCCAAACGTAC
GIFT_amhΔy 768 -----

G S Q F R A F L L L K A L Q T V A Q T Y
G S Q F R V F L L L K A L Q T V A Q T Y
- - - - -

.....1210.....1220.....1230.....1240.....1250.....1260
GIFT_amh 1201 GACGCGCAAAGAAAAC TGCGGGCCACCAGAGCAGACCCCAAGTTCGTCAGTGAGGGGCGGC
GIFT_amhy 1201 GACGCGCAAAGAAAAC TGCGGGCCACCAGAGCAGACCCCAAGTTCGTCAGTGAGGGGCGGC
GIFT_amhΔy 768 -----

D A Q R K L R A T R A D P S S S V R G G
D A Q R K L R A T R A D P S S S V R G G
- - - - -

.....1270.....1280.....1290.....1300.....1310.....1320
GIFT_amh 1261 GTCTGTGGGCTGAAGGCTCTCACCCTGTCCCTGACAAAGCTTCTTGTGCGGCCCAAGCAGC
GIFT_amhy 1261 GTCTGTGGGCTGAAGGCTCTCACCCTGTCCCTGACAAAGCTTCTTGTGCGGCCCAAGCAGC
GIFT_amhΔy 768 -----

V C G L K A L T V S L T K L L V G P S S
V C G L K A L T V S L T K L L V G P S S
- - - - -

.....1330.....1340.....1350.....1360.....1370.....1380
GIFT_amh 1321 GCAAACATTAACAATTGCCACGGCTCCTGCGCGTTCCCTCTGACCAACGGCAACAACCAC
GIFT_amhy 1321 GCAAACATTAACAATTGCCACGGCTCCTGCGCGTTCCCTCTGACCAACGGCAACAACCAC
GIFT_amhΔy 768 -----

A N I N N C H G S C A F P L T N G N N H
A N I N N C H G S C A F P L T N G N N H
- - - - -

.....1390.....1400.....1410.....1420.....1430.....1440
GIFT_amh 1381 GCCATCCTGCTCAACTCCCACATCGAGACCGGCAACGCGGATGAGCGTTGCGCCCTGCTGT
GIFT_amhy 1381 GCCATCCTGCTCAACTCCCACATCGAGACCGGCAACGCGGATGAGCGTTGCGCCCTGCTGT
GIFT_amhΔy 768 -----

A I L L N S H I E T G N A D E R S P C C
A I L L N S H I E T G N A D E R S P C C
- - - - -

GIFT_amh

GIFT_amhy

GIFT_amhΔy

1441

1441

768

.....:1450.....:1460.....:1470.....:1480.....:1490.....:1500

GTGCCCCGTGGCATAACGAAGCCCCTGGAGGTTGTGGACTGGAACGCAGATGGGACCTTCATC

GTGCCCCGTGGCATAACGAAGCCCCTGGAGGTTGTGGACTGGAACGCAGATGGGACCTTCATC

V_P_V_A_Y_E_A_L_E_V_V_D_W_N_A_D_G_T_F_I

V_P_V_A_Y_E_A_L_E_V_V_D_W_N_A_D_G_T_F_I

- - - - -

GIFT_amh

GIFT_amhy

GIFT_amhΔy

1501

1501

768

.....:1510.....:1520.....:1530.....:1540.....:

TCCATCAAGCCAGATGCGGTTGCGAGGGAGTGTGGATGCCGCTAG

TCCATCAAGCCAGATGCGGTTGCGAGGGAGTGTGGATGCCGCTAG

S_I_K_P_D_A_V_A_R_E_C_G_C_R_*

S_I_K_P_D_A_V_A_R_E_C_G_C_R_*

- - - - -