

Figure S1. Location of the CpG island in the *GLA* and *HNRNP2* BDP sequence. The CpG island is underlined.

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CTCAGGGCCG TGGTTTTCAA ACGTTTTTCG CCTTACGGTC ACCCTTAGGG 50
GTCCCCCGAG ACCGGCCCAG ACAGACAGAT ATACAAAAAC ACATACACAG 100
TCATGAGCGT CCACCATTTC CCCACCAGGC GCAGCACAGG CGGCTTCCCG 150
GCACTGAGAT GGGGGGGAGG AGGGAGAGAG CGCGAGGGGG GAGGGGAAAG 200
CAGAGAACGA AAGAGGCAGA GCGGGCCCC GAACCCCGCT CTGGTCTTCA 250
TCATCACCCAC CCCTGGGTCC CCAAGTTCCCA CCCACACACC AACCTCTAAC 300
GATACCGGGT AATTTTCCTC CTCTTCCCT CAAACGGCTA TAGCGAGACG 350
GTAGACGACG ACCAGAACCTA CTCTGCTCA CGTAGCGAG TAATCACGTG 400
AGCGCCTACG TCATGTGAGA TCTCGGTCAC GTGAGCACT CTCGGCTTAA 450
ACTCGGGATC ACTAAGGTGC CGCACTTCTT TCTGGTATGG AAATAGGGCG 500
GGTCAATATC AAGAAAGGAA GAGGGTGATT GGTAGCGGA ACCTCTTACG 550
TGACTGATTA TTGGTCTACC TCTGGGGATA ACCGTCCCGA TTGCCAGAGA 600
AACRATAACG TCATTATTTA ATAAGTCATC GGTGATTGGT CCGCCCTGA 650
GGTTAATCTT AAAAGCCCAG GTTACCCGCG GAAATTTATG CTGTCCGGTC 700
ACCGTGACAA TGCAGCTGAG GAACCCAGAA CTACATCTGG GCTGCGCGCT 750
TGCGCTTCG TTCTTGGCCC TCGTTTCCTG GGACATCCCT GGGGCTAGAG 800
CACTGGACAA TGGATTGGCA AGGACGCCCTA CCATGGGCTG GCTGCACTGG 850
GAGCGCTTCA TGTGCAACCT TGAATGCCAG GAAGAGCCAG ATTCTTGCAT 900
CAGGTATCAG ATATTGGGTA CTCCCTTCCC TTTGCTTTTC CATGTGTTTG 950
GGTGTGTTTG GGGAACTGGA GAGTCTCAAC GGGAACAGTT

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Figure S2. BDP methylation and *GLA* and *HNRNPH2* expression in the normal individuals and FD patients. (A) DNA methylation of the BDP in normal females (C1 and C2) and FD females (FD1 and FD2). (B and C) Expression of *GLA* and *HNRNPH2* in normal females (C1 and C2) and FD females (FD1 and FD 2). (D) DNA methylation of the BDP in normal males (C3 and C4) and FD males (FD3 and FD4). (E and F) Expression of *GLA* and *HNRNPH2* in the normal males (C3 and C4) and FD males (FD3 and FD4). FD, Fabry disease patients; BDP, bidirectional promoter.

