

S1 Fig. First round forward and reverse primers for the *FGFR3*, *MECP2*, and *PTPN11* experiments, and second round forward and reverse universal primers.

A. First round forward *FGFR3* primer (Illumina sequencing primer in red)

5' **CGACGCTCTCCGATCT**NNNNNNNNNNNNNGACGTGCACAACCTCGACTACTACAA 3'

B. First round reverse *FGFR3* Primer (example of barcode)

5' **CTCGGCATTCTGCTGAACCGCTCTCCGATCT**CAGACTATNNNNNGAAGCCTGAG
CTCTGCAGGACAC 3'

C. Second round forward primer (*=phosphorothioate bond, Illumina flowcell sequence in blue)

5' **AATGATACGGCGACCACCGAGATCT****ACACTCTTTCCTACACGACGCTCTTCCGAT***C*T 3'

D. Second round reverse primer

5' **CAAGCAGAAGACGGCATA**CGAGAT**CGGTCTCGGCATTCTGCTGAACCGCTCTTCCG***A*T 3'

E. First round forward *MECP2* Primer

5' **CGACGCTCTTCCGATCT**NNNNNNNNNNNNNGACACATCCCTGGACCCTAATGATTTTG 3'

F. First Round Reverse *MECP2* Primer (example of barcode)

5' **CTGAACCGCTCTTCCGATCT**TGTGTATCNNNNNNNNGGAGATTTGGGCTTCTTAGGTGGTTT 3'

G. First Round Forward *PTPN11* Primer

5' **CGACGCTCTTCCGATCT**NNNNNNNNNNNNNGTCCAGGACTTATGTGACCGTGGTCT 3'

H. First Round Reverse *PTPN11* Primer (example of barcode)

5' **AACCGCTCTTCCGATCT**AGTAGGNNNNNNNAACACTGTGAAAAGCAAAGCTTAC 3'