

Figure S1 The protein expression of NUDT18 was detected by western blot in MFE-296 (A) and Ishikawa (B) cells with NUDT18 overexpressed.

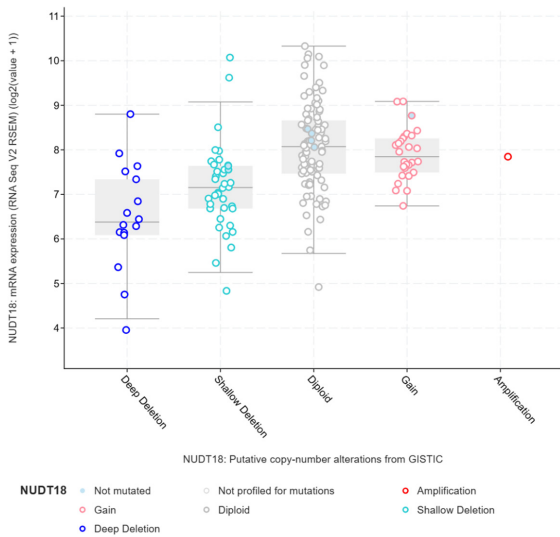


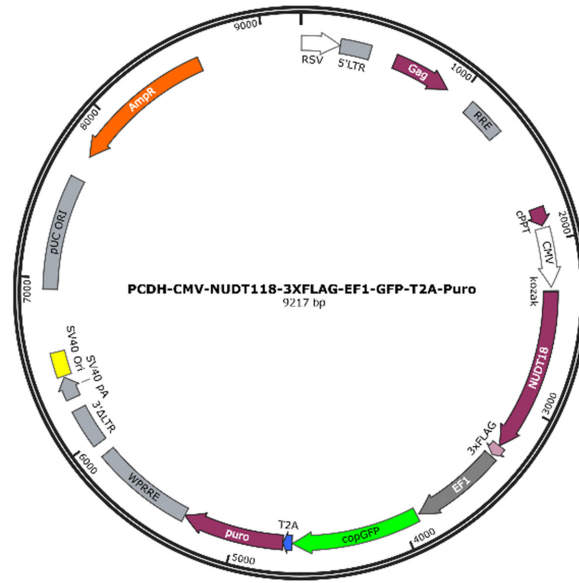
Figure S2 Dot plot showing NUDT18 mRNA expression levels in patient-matched tumor tissues stratified by copy number alteration (CNA) status.

Table S1 Primers for RT-qPCR analysis

Gene	Primer	Sequences(5'→3')
<i>GAPDH</i>	Forward	AAGGTCGGAGTCAACGGATTT
	Reverse	ACCAGAGTAAAAGCAGCCCTG
<i>NUDT18</i>	Forward	AGGAGGCCATGCTTACCCAT
	Reverse	AGACACTAGGTAGGGTGGCAA
<i>TGF-β</i>	Forward	CCTGGACACCAACTATTGCTTCAG
	Reverse	TCAGCTGCACTTGCAGGAGC
<i>TGF-βR</i>	Forward	CTGCTGGTGCTGTTTGTGAT
	Reverse	CTGCTGGTGCTGTTTGTGAT
<i>SMAD2</i>	Forward	CAGACCTTCAATCCGGACCA
	Reverse	GCTGCAAAGTCTCCAGGTTC
<i>SMAD3</i>	Forward	GCTGCAAAGTCTCCAGGTTC
	Reverse	TCCAGGTGATCCATCTCCAG
<i>SMAD4</i>	Forward	TGGAGAACCTGGACAGCAAC
	Reverse	GCTGCCGTAGTTGTCCTTGT

Appendix 1

Created with SnapGene®



Sequence:

ACGCGTGTAGTCTTATGCAATACTCTTGTAGTCTTGCAACATGGTAACGATGAGTTAGCAACATGCCTTACAAGGAGAGA
AAAAGCACCGTGCATGCCGATTGGTGGAAAGTAAGGTGGTACGATCGTGCCTTATTAGGAAGGCAACAGACGGGTCTGA
CATGGATTGGACGAACCACTGAATTGCCGCATTGCAGAGATATTGTATTTAAGTGCCTAGCTCGATAACAATAAACGGGTC
TCTCTGGTTAGACCAGATCTGAGCCTGGGAGCTCTCTGGCTAACTAGGGAACCCACTGCTTAAGCCTCAATAAAGCTT
GCCTTGAGTGCTTCAAGTAGTGTGTGCCCGTCTGTTGTGTGACTCTGGTAACTAGAGATCCCTCAGACCCTTTTAGT
CAGTGTGGAAAATCTCTAGCAGTGGCGCCCGAACAGGGACCTGAAAGCGAAAGGGAAACCAGAGCTCTCTCGACGCAG
GACTCGGCTTGCTGAAGCGCGCACGGCAAGAGGCGAGGGGCGGCGACTGGTGAGTACGCCAAAAATTTTACTAGCG
GAGGCTAGAAGGAGAGAGATGGGTGCGAGAGCGTCAGTATTAAGCGGGGAGAATTAGATCGCGATGGGAAAAAATTCG
GTTAAGGCCAGGGGAAAAGAAAAATATAAATTA AACATATAGTATGGGCAAGCAGGGAGCTAGAACGATTTCGAGTTAA
TCCTGGCCTGTTAGAAACATCAGAAAGCTGTAGACAAATACTGGGACAGCTACAACCATCCCTTCAGACAGGATCAGAAG
AATTAGATCATTATATAATACAGTAGCAACCCTCTATTGTGTGCATCAAAGGATAGAGATAAAAAGACACCAAGGAAGCTTT
AGACAAGATAGAGGAAGAGCAAAACAAAAGTAAGACCACCGCACAGCAAGCGGCCACTGATCTTCAGACCTGGAGGAGGA
GATATGAGGGACAATTGGAGAAGTGAATTATATAAATATAAAGTAGTAAAAATTGAACATTAGGAGTAGCACCCACCAAGG
CAAAGAGAAGAGTGGTGCAGAGAGAAAAAGAGCAGTGGGAATAGGAGCTTTGTTCCCTTGGGTTCTTGGGAGCAGCAG
GAAGCACTATGGGCGCAGCCTCAATGACGCTGACGGTACAGGCCAGACAATTATGTCTGGTATAGTGCAGCAGCAGAA
CAATTTGCTGAGGGCTATTGAGGCGCAACAGCATCTGTTGCAACTCACAGTCTGGGGCATCAAGCAGCTCCAGGCAAG
AATCCTGGCTGTGGAAAGATACCTAAAGGATCAACAGCTCCTGGGGATTTGGGGTTGCTCTGAAAACTCATTTCACC
ACTGCTGTGCCTTGGAAATGCTAGTTGGAGTAATAATCTCTGGAACAGATTGGAATCACACGACCTGGATGGAGTGGGA
CAGAGAAATTAACAATTACACAAGCTTAATACACTCCTTAATTGAAGAATCGCAAAACCAGCAAGAAAAAGAATGAACAAGAAT
TATTGGAATTAGATAAATGGGCAAGTTTGTGGAATTTGTTAACATAACAAATTTGGCTGTGGTATATAAAATTTATTCATAAT
GATAGTAGGAGGCTTGGTAGGTTTAAGAATAGTTTTTGGCTGTACTTTCTATAGTGAATAGAGTTAGGCAGGGATATTCA
CCATTATCGTTTTCAGACCCACCTCCCAACCCCGAGGGGACCCGACAGGCCCGAAGGAATAGAAGAAGAAGGTGGAGAGA
GAGACAGAGACAGATCCATTTCGATTAGTGAACGGATCTCGACGGTTAACTTTTAAAAGAAAAGGGGGGATTGGGGGTA
CAGTGCAGGGGAAAGAATAGTAGACATAATAGCAACAGACATACAACTAAAGAATTACAAAAACAAATTACAAAAATTCAAAA
TTTTATCGATACTAGTATTATGCCAGTACATGACCTTATGGGACTTTCCCTACTTGGCAGTACATCTACGTATTAGTCATC
GCTATTACCATGGTGATGCGGTTTTTGGCAGTACATCAATGGGCGTGGATAGCGGTTTGACTCACGGGGATTTCCTCAAGT

CTCCACCCCAATTGACGTCAATGGGAGTTTGT TTTGGCACCAAAATCAACGGGACTTTCCAAAATGTCGTAACAACTCCG
CCCCATTGACGCAAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGA
TCGCCTGGAGACGCCATCCACGCTGTTTTGACCTCCATAGAAGATTCTAGAGCTAGCGAATTCGGCCACCATGGCCTC
GGAGGGCCTGGCGGGGGCGCTGGCTTCCGTGCTGGCTGGCCAGGGGTCCAGCGTGCACAGCTGCGACTCGGCGCC
GGCCGGGGAGCCGCCGGCGCCCGTGC GGCTGCGGAAGAACGTGTGCTACGTGGTGTGCTGGCCGTGTTCCCTCAGCGA
GCAGGATGAGGTGCTACTGATCCAGGAGGCCAAGAGGGAGTGCCGGGGTTCGTGGTACCTGCCTGCGGGGAGAATG
GAGCCAGGGGAGACCATCGTGGAGGCGCTGCAGCGGGAGGTGAAGGAGGAGGCGGGGCTGCACTGTGAGCCCGAGA
CACTGCTGTCCGTGGAGGAGCGGGGCCCTCCTGGGTCCGCTTCGTGTTCCCTCGCTCGCCCCACAGGTGGAATTCT
CAAGACTTCCAAGGAGGCCGATGCGGAGTCCCTGCAGGCTGCCTGGTACCCACGGACCTCCCTGCCACTCCGCTGC
GAGCCCATGACATCCTGCACCTGGTTGAACTAGCCGCCAGTATCGCCAGCAAAGCCAGGCACCCTCTCATTCTGCCCCA
AGAGCTACCCTGTGATCTGGTCTGCCAGCGGCTCGTGGCTACCTTTACCAGCGCCCAGACAGTGTGGGTGTTAGTGG
GCACAGTGGGGATGCCTCACTTGCTGTCACTGCCTGTGGCTCGACCCTATGGAGCAGAGGGGTGGCATGAAGATG
GCCGTCTGCGGCTGCTGCAGGAGTGTCTGACCCTGCACCACTTGGTGGTGGAGATCAAGGGGTTGCTTGGACTGC
AGCACCTGGGCCGAGATCACAGTGTGGCATCTGTTTGAATGTGCTGGTGACCGTGGCTTTTCGGAGCCCAGGGATC
CAGGATGAACCCCCAAAAGTTCCGGGTGAGAACTTCTCTTGGTGGAAAGGTGATGGAGGAAGACCTGCAAAGCCAGCTC
CTCCAGCGGCTTACGGGATCCTCTGTTGTCCAGTGAACAGAGACTACAAAGACCATGACGGTGATATATAAAGATCATG
ACATCGATTACAAGGATGACGATGACAAGTGAAGCGGCCGCAAGGATCTGCGATCGCTCCGGTGCCCGTCACTGGGCAG
AGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTCCGCAATTGAACGGGTGCCTAGAGAAGGTGGCGC
GGGGTAAACTGGGAAAGTGATGTCGTGTACTGGCTCCGCCTTTTTCCCGAGGGTGGGGGAGAACCGTATATAAGTGCA
GTAGTCGCCGTGAACGTTCTTTTTCGCAACGGGTTTGGCCGACAGTGAAGCTTCGAGGGGCTCGCATCTC
TCCTTACGCGCCCGCCGCCCTACCTGAGGCCGCCATCCACGCCGGTTGAGTCGCGTTCGCGCCTCCCGCCTGT
GGTGCTCCTGAACTGCGTCCGCGCTTAGGTAAGTTAAAGCTCAGGTTCGAGACCGGGCTTTGTCCGGCGCTCCC
TTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCCTGACCCTGCTTGCTCAACTCTACGTCTTTGTTTCGT
TTTCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCCTACGCTAGACGCCACCATGGAGAGCGACGAGAGCG
GCCTGCCC GCCATGGAGATCGAGTGCCGCATCACCGGCACCCTGAACGGCGTGGAGTTCGAGCTGGTGGCGGGCGG
AGAGGGCACCCCCAAGCAGGGCCGCATGACCAACAAGATGAAGAGCACCAAAGGCGCCCTGACCTTCAGCCCCTACCTG
CTGAGCCACGTGATGGGCTACGGCTTCTACCCTTCGGCACCTACCCCAGCGGCTACGAGAACCCCTTCCCTGCACGCC
ATCAACAACGGCGGCTACACCAACACCCGCATCGAGAAGTACGAGGACGGCGGCGTGTGTCACGTGAGCTTACGCTAC
CGCTACGAGGCCGGCCGCGTGTATCGGCGACTTCAAGGTGGTGGGCACCGGCTTCCCCGAGGACAGCGTGATCTTAC
CGACAAGATCATCCGCAGCAACGCCACCGTGGAGCACCTGCACCCCATGGGCGATAACGTGCTGGTGGGCAGCTTCGC
CCGCACCTTCAGCCTGCGCGACGGCGGCTACTACAGCTTCGTGGTGGACAGCCACATGCACTTCAAGAGCGCCATCCA
CCCCAGCATCCTGCAGAACGGGGGCCCATGTTTCGCCTTCCGCCGCGTGGAGGAGCTGCACAGCAAACCCGAGCTGG
GCATCGTGGAGTACCAGCACGCCTTCAAGACCCCCATCGCCTTCGCCAGATCCCGCGCTCAGTCGTCCAATTTCTGCCG
TGGACGGCACCGCCGGACCCGGCTCCACCGGATCTCGCGAGGGCAGAGGAAGTCTTCTAACATGCGGTGACGTGGAG
GAGAATCCCGGCCCTATGACCGAGTACAAGCCCACGGTGC GCCTCGCCACCCGCGACGACGTCCCCAGGGCCGTACGC
ACCCTCGCCGCCGCTTCGCGGACTACCCCGCCACGCGCCACACCGTCGATCCGGACC GCCACATCGAGCGGGTAC
CGAGCTGCAAGAACTCTTCCCTACGCGCGTGGGCTCGACATCGGCAAGGTGTGGGTGCGGACGACGGCGCCGCG
GTGGCGGTCTGGACCACGCCGGAGAGCGTGAAGCGGGGGCGGTGTTGCGCGAGATCGGCCCGCGCATGGCCGAGT
TGAGCGGTTCCCGGCTGGCCGCGCAGCAAAGATGGAAGGCTCCTGGCGCCGACCGGCCCAAGGAGCCCGCGTG
GTTCCCTGGCCACCGTCGGCGTCTCGCCCGACCACCAGGGCAAGGGTCTGGGCAGCGCCGTCGTGCTCCCCGGAGTG
GAGGCGGCCGAGCGCGCCGGGTGCCCGCTTCTGGAGACCTCCGCGCCCCGCAACCTCCCCTTCTACGAGCGGC
TCGGCTTACCCTCACCGCCGACGTGAGGTGCCGGAAGGACCGCGCACCTGGTGCATGACCCGCAAGCCCGGTGCC
TGAAATCAACCTCTGGATTACAAAATTTGTGAAAGATTGACTGGTATTCTTAACTATGTTGCTCCTTTTACGCTATGTGG
ATACGCTGCTTTAATGCCTTTGTATCATGCTATTGCTTCCCGTATGGCTTTCATTTTCTCCTCCTTGTATAAATCCTGG
TTGCTGTCTCTTTATGAGGAGTTGTGGCCCGTTGTGAGGCAACGTGGCGTGGTGTGCACTGTGTTGCTGACGCAA
CCCCACTGGTTGGGGCATTGCCACCACCTGTGAGCTCCTTTCCGGGACTTTTCGCTTTCCCCCTCCCTATTGCCACG
GCGGAACTCATCGCCGCTGCCTTGCCCGCTGCTGGACAGGGGCTCGGCTGTTGGGCACTGACAATTCGGTGGTGT
TGTCCGGGAAGCTGACGTCTCTTCCATGGCTGCTCGCCTGTGTTGCCACCTGGATTCTGCGCGGGACGTCTCTCTG

CTACGTCCCTTCGGCCCTCAATCCAGCGGACCTTCCTTCCC GCGGCCTGCTGCCGGCTCTGCGGCCTCTTCCGCGT
CTCCGCCTTCGCCCTCAGACGAGTCGGATCTCCCTTTGGCCGCCTCCCCGCCTGGTACCTTTAAGACCAATGACTTAC
AAGGCAGCTGTAGATCTTAGCCACTTTTTAAAAAGAAAAGGGGGGACTGGAAGGGCTAATTCACTCCCAACGAAAATAAGA
TCTGCTTTTTGCTTGTACTGGGTCTCTCTGGTTAGACCAGATCTGAGCCTGGGAGCTCTCTGGCTAACTAGGGAACC
CACTGCTTAAGCCTCAATAAAGCTTGCCTTGAGTGCTTCAAGTAGTGTGTGCCCGTCTGTTGTGTGACTCTGGTAACT
AGAGATCCCTCAGACCCTTTTAGTCAGTGTGGAAAATCTCTAGCAGTAGTAGTTCATGTCATCTTATTATTTCAGTATTTA
TAACTTGCAAAGAAATGAATATCAGAGAGTGAGAGGAACTTGTTTATTGCAGCTTATAATGGTTACAAATAAAGCAATAGCA
TCACAAATTTACAAATAAAGCATTTTTTTTCACTGCATTCTAGTTGTGGTTTGTCCAAACTCATCAATGTATCTTATCATG
TCTGGCTCTAGCTATCCCGCCCTAACTCCGCCCAGTTCGCCCATTTCTCCGCCCATGGCTGACTAATTTTTTTTTTATT
TATGCAGAGGCCGAGGCCGCCTCGGCCTCTGAGCTATCCAGAAGTAGTGAGGAGGCTTTTTTTGGAGGCCTAGACTT
TTGCAGAGACGGCCCAAATTCGTAATCATGGTCATAGCTGTTTCCCTGTGTGAAATTGTTATCCGCTCACAAATCCACAC
AACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCT
CACTGCCCGCTTTCCAGTCGGGAAACCTGTCTGTGCCAGCTGCATTAATGAATCGGCCAACGCGCGGGGAGAGGCGGT
TTGCGTATTTGGGCGCTCTTCCGCTTCCCTCGCTCACTGACTCGCTGCGCTCGGTCTGTTCCGCTGCGGCGAGCGGTAT
CAGCTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAGAACATGTGAGCAAAAGGCCAG
CAAAGGCCAGGAAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAA
ATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATAACCAGGCGTTTCCCCCTGGAAGCTCCCTCGT
GCGCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCT
CATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCTGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGT
TCAGCCCGACCCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGTAAGACACGACTTATCGCCACTGGCA
GCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTAC
GGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCT
TGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGAT
CTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAAACCTCACGTTAAGGGATTTTGGTCA
TGAGATTATCAAAAAGGATCTTCACCTAGATCCTTTTAAATTAATAATGAAGTTTTAAATCAATCTAAAGTATATATGAGTAA
ACTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATCTCAGCGATCTGTCTATTTTCGTTTCATCCATAGTTG
CCTGACTCCCCGTCGTGTAGATAACTACGATAACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACCGCGAGA
CCCACGCTCACCGGCTCCAGATTTATCAGCAATAAAACAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGGTCCCTGCAACT
TTATCCGCCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCTAGAGTAAGTAGTTCGCCAGTTAATAGTTTGC GCAACG
TTGTTGCCATTGCTACAGGCATCGTGGTGTACGCTCGTCTGTTGGTATGGCTTCATTCAGCTCCGGTTCCCAACGA
TCAAGGCGAGTTACATGATCCCCATGTTGTGCAAAAAGCGGTTAGTCCCTTCGGTCCCTCCGATCGTTGTGAGAAGTA
AGTTGGCCGAGTGTATCACTCATGGTTATGGCAGCACTGCATAATTTCTTACTGTGATGCCATCCGTAAGATGCTT
TTCTGTGACTGGTGTGACTCAACCAAGTCATTCTGAGAATAGTGTATGCGGCGACCAGTTGCTCTTGCCCGGCGTC
AATACGGGATAATACCGCGCCACATAGCAGAACTTTAAAAGTGCTCATCTTGGAAAACGTTCTTCGGGGCGAAAACCTCT
CAAGGATCTTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAAGTATCTTACGATCTTTTACTTT
CACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGCAAAAAGGGAATAAGGGCGACACGGAAATGTTGAA
TACTCATACTCTTCCCTTTTTCAATATTAATGAAGCATTATCAGGGTTATTTGTCTCATGAGCGGATACATATTTGAATGTA
TTTAGAAAAATAAACAAATAGGGGTTCCGCGCACATTTCCCCGAAAAGTGCCACCTGACGTCTAAGAAAACCATATATCA
TGACATTAACCTATAAAAATAGGCGTATCACGAGGCCCTTTCTGCTCTCGCGGTTTTCGGTGATGACGGTGA AAAACCTCTG
ACACATGCAGCTCCCGGAGACGGTCACAGCTTGTCTGTAAGCGGATGCCGGGAGCAGACAAGCCCGTCAGGGCGCGT
CAGCGGGTGTGGCGGGTGTGCGGGCTGGCTTAACTATGCGGCATCAGAGCAGATTGTACTGAGAGTGCACCATATG
CGGTGTGAAATACCGCACAGATGCGTAAGGAGAAAATACCGCATCAGGCGCCATTGCCATTAGGCTGCGCAACTGTT
GGGAAGGGCGATCGGTGCGGGCCTCTTCGCTATFACGCCAGCTGGCGAAAGGGGATGTGCTGCAAGGCGATTAAGT
TGGGTAACGCCAGGGTTTTCCAGTCACGACGTTGTA AACGACGGCCAGTGCCAAGCTG