

cKIT					
	Mut	ex on	g-block sequences	primer (for/rev)	probes
1	A502-Y503 dup	9	WT: gen. DNA (restriction enzyme: HIND III) MUT: 4:54725897..54726178 AACTCATCTGGGCCACCGTTTGGAAAGCTAGTGGTTCAGAGTTCATAGATTCTAGTGCATTCAAGCACAATGGCACGGTTGAATGTAAG GCTTACAACGATGTGGCAAGACTTCTGCCTAT GCCTAT TTTAACCTTTGCATTTAAAGGTAACAACAAAGGTATTTCTTTTTAATCCAATT TAAGGGGATGTTAGGCTCTGTCTACCATATCAGTCATGATTTAAGTTTCATCCAACATTGACCATGTCAATTTCTGGTAATACATGCATCA CACCATACTGTCA	5'-GGTTGAATGTAAGGCTTA-3' 5'-GACTGATATGGTAGACAGA-3'	WT (LNA): 5'-cttCtgCctAttTtaactt-3' Mut. (LNA): 5'-ttctGccTatGccTattt-3'
2	K642E	13	WT: gen. DNA (restriction enzyme: HAE III) MUT: 4:54727828..54728293 GCTTGACATCAGTTTGCCAGTTGTGCTTTTTGCTAAATGCATGTTTCCAATTTTAGCGAGTGCCCATTTGACAGAACGGGAAGCCCTCAT GTCTGAAC TG AAGTCTGAGTTACCTTGGTAATCACATGAATATTGTGAATCTACTTGAGCCTGCACCATTTGGAGGTAAAGCCGTGTC CAAGCTGCC TTT TATTGTCTGTCAAGTTATCAAAACATGACATTTTAATATGATTTTGCCAATGCTAGAT	5'-GTGCCCCATTTGACAGAAC-3' 5'-GCTCCAAGTAGATTACAATA-3'	WT (LNA): 5'-tctGaaCtcAaaGtcctga-3' Mut. (LNA): 5'-tctGaaCtcGaaGtcctg-3'
3	V654A	13	WT: gen. DNA (restriction enzyme: HAE III) MUT: 4:54727994..54728245 CATGTTTCCAATTTTAGCGAGTGCCCATTTGACAGAACGGGAAGCCCTCATGTCTGAAC TC AAAGTCTGAGTTACCTTGGTAATCACATG AATATTG CA AATCTACTTGGAGCCTGCACCATTTGGAGGTAAAGCCGTGTCCAAGCTGCCTTTTATTGTCTGTCAGGTTATCAAAACATGAC ATTTTAATATGATTTTGGCAATGCTAGATTATAAACTGCTTGGAAAGATTTTTTACCAGACTGTTGTTT	5'- CCTGAGTTACCTTGGTAA -3' 5'- GCAGTTTATAATCTAGCATTG -3'	WT (LNA): 5'-tgaAtaTtgTgaAtctact 3' Mut. (LNA): 5'-tgaAtaTtgCgaAtctact -3'
4	T670I	14	WT: gen. DNA (restriction enzyme: HIND III) MUT: 4:54729128..54729502 GACCACCTTGGGTATTTTATGGGAGGCAGAAATTAATCTATATATCTCACCTTCTTTCTAACCTTTTCTTATGTGCTTTTAGGGCCACCC TGGTCATTATAGAAATATTGTTGCTATGGTGATCTTTGAATTTTGTGAGAAAGAAACGTGATTTCATTTATTTGTTCAAAGCAGGAAGATCATG CAGAAGCTGCAC TT TATAAGAATCTTCTGCATTCAAAGGAGTCTTCTGGTAAGACTGATTTACAT	5'- CCTTCTTTCTAACCTTTTCTTA -3' 5'- CTTCTGCTTTGAACAAA -3'	WT (LNA): 5'- cctggTcaTtaCagAatat -3' Mut. (anti-sense; LNA): 5'- ctggTcaTtaTagAatat -3'
5	820 drop off here: N822K-A	17	WT: gen. DNA (restriction enzyme: HIND III) MUT: 4: 4:54733008..54733321 TTTTCACTCTTTACAAGTTAAATGAATTTAAATGGTTTTCTTTCTCTCCAACCTAATAGTGATTACAGAGACTTGGCAGCCAGAAATA TCCTCCTTACTCATGGTCGGATCACAAAGATTTGTGATTTTGGTCTAGCCAGAGACATCAAGAATGATTCTAA A TATGTGGTTAAAGGAAA CGTGAGTACCCATTCTGCTTGACAGTCCTGCAAAGGATTTTAGTTTCAACTTTTGCATAAAATTTGTTTCTGTGATTTTCATAATGTAAA TCCTGTCTAGGGATATCACACATTTAGCAGTCAAAT	5'- GCAGCCAGAAATATCCTC -3' 5'- TAGACAGGATTACATTATGAA -3'	Ref. (LNA): 5'-ttaCtcAtgGtcGgatca -3' WT-specific (LNA): 5'-tgaTtcTaaTtaTgtggtt -3'

Supplementary Table S1. gBlock, primer and probe sequences for ddPCR assays of cKIT mutations

Percentage	MUT cps/well	WT cps/well
5	1000	20.000
2.5	500	20.000
1	200	20.000
0.5	100	20.000
0.25	50	20.000
0.125	25	20.000
0.0975	19.5	20.000
0.05	10	20.000
0.01	2	20.000

Supplementary Table S2. Dilution for determination of the limit of detection (LoD)