

# Supplementary Materials: Acute Radiation Colitis After Preoperative Short-Course Radiotherapy for Rectal Cancer: A Morphological, Immunohistochemical and Genetic Study

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**Table 1.** List of genetic variants detected in tumor and normal tissue of each patient.

Patient	Tumor		Normal		Coding Effect	Origin
	Gene	AA Change	Gene	AA Change		
Patient 1	<i>EGFR</i>	p.Ala613Ala	<i>EGFR</i>	p.Ala613Ala	synonymous_variant	germline
	<i>HRAS</i>	p.His27His	<i>HRAS</i>	p.His27His	synonymous_variant	germline
	<i>KIT</i>	p.Met541Leu	<i>KIT</i>	p.Leu862Leu	missense_variant	germline
	<i>KIT</i>	p.Leu862Leu	<i>KIT</i>	p.Met541Leu	synonymous_variant	germline
	<i>PDGFRA</i>	p.Val824Val	<i>PDGFRA</i>	p.Val824Val	synonymous_variant	germline
Patient 2	<i>RET</i>	p.Ser904Ser	<i>RET</i>	p.Ser904Ser	synonymous_variant	germline
	<i>APC</i>	p.Ile1307Lys	<i>APC</i>	p.Ile1307Lys	missense_variant	germline
Patient 4	<i>HRAS</i>	p.His27His	<i>HRAS</i>	p.His27His	synonymous_variant	germline
	<i>EGFR</i>	p.Gln787Gln	<i>EGFR</i>	p.Gln787Gln	synonymous_variant	germline
	<i>FGFR3</i>	p.Phe384Leu	<i>FGFR3</i>	p.Phe384Leu	missense_variant	germline
	<i>HRAS</i>	p.His27His	<i>HRAS</i>	p.His27His	synonymous_variant	germline
	<i>MET</i>	p.Ser178Ser	<i>MET</i>	p.Ser178Ser	synonymous_variant	germline
	<i>PIK3CA</i>	p.Ile391Met	<i>PIK3CA</i>	p.Ile391Met	missense_variant	germline
	<i>RET</i>	p.Ser904Ser	<i>RET</i>	p.Ser904Ser	synonymous_variant	germline
	<i>APC</i>	p.Arg876*			stop_gained	somatic
	<i>APC</i>	p.Ile1307fs			frameshift_variant	somatic
	<i>TP53</i>	p.Arg273Cys			missense_variant	somatic
Patient 5	<i>AKT1</i>	p.Gln43His	<i>AKT1</i>	p.Gln43His	missense_variant	germline
	<i>KDR</i>	p.Gln472His	<i>KDR</i>	p.Gln472His	missense_variant	germline
	<i>PDGFRA</i>	p.Val824Val	<i>PDGFRA</i>	p.Val824Val	synonymous_variant	germline
	<i>RET</i>	p.Ser904Ser	<i>RET</i>	p.Ser904Ser	synonymous_variant	germline
	<i>TP53</i>	p.Pro36Pro	<i>TP53</i>	p.Pro36Pro	synonymous_variant	germline
	<i>TP53</i>	p.Arg213Arg	<i>TP53</i>	p.Arg213Arg	synonymous_variant	germline
	<i>FBXW7</i>	p.Arg347Cys			missense_variant	somatic
	<i>PIK3CA</i>	p.Glu542Lys			missense_variant	somatic
	<i>SMAD4</i>	p.Gln245*			stop_gained	somatic
	<i>TP53</i>	p.Pro152Leu			missense_variant	somatic
Patient 6	<i>EGFR</i>	p.Gln787Gln	<i>EGFR</i>	p.Gln787Gln	synonymous_variant	germline
	<i>ERBB2</i>	p.Ile655Val	<i>ERBB2</i>	p.Ile655Val	missense_variant	germline
	<i>HRAS</i>	p.His27His	<i>HRAS</i>	p.His27His	synonymous_variant	germline
	<i>KDR</i>	p.Gln472His	<i>KDR</i>	p.Gln472His	missense_variant	germline
	<i>KRAS</i>	p.Asp173Asp	<i>KRAS</i>	p.Asp173Asp	synonymous_variant	germline
	<i>MET</i>	p.Arg970Cys	<i>MET</i>	p.Arg970Cys	missense_variant	germline
	<i>RET</i>	p.Ser904Ser	<i>RET</i>	p.Ser904Ser	synonymous_variant	germline
	<i>APC</i>	p.Glu1379*			stop_gained	somatic
	<i>EGFR</i>	p.Asp855Gly			missense_variant	somatic
	<i>KRAS</i>	p.Gly12Val			missense_variant	somatic
Patient 7	<i>PIK3CA</i>	p.Glu542Val			missense_variant	somatic
	<i>TP53</i>	p.His214Arg			missense_variant	somatic
	<i>ERBB2</i>	p.Ile655Val	<i>ERBB2</i>	p.Ile655Val	missense_variant	germline
	<i>HRAS</i>	p.His27His	<i>HRAS</i>	p.His27His	synonymous_variant	germline
	<i>KRAS</i>	p.Asp173Asp	<i>KRAS</i>	p.Asp173Asp	synonymous_variant	germline
	<i>PDGFRA</i>	p.Val824Val	<i>PDGFRA</i>	p.Val824Val	synonymous_variant	germline
	<i>PIK3CA</i>	p.Ile391Met	<i>PIK3CA</i>	p.Ile391Met	missense_variant	germline
Patient 8	<i>APC</i>	p.Gln1367*			stop_gained	somatic
	<i>KRAS</i>	p.Gly12Asp			missense_variant	somatic
	<i>PIK3CA</i>	p.Glu545Lys			missense_variant	somatic
	<i>TP53</i>	p.Gly293fs			frameshift_variant	somatic
	<i>ATM</i>	p.Pro604Ser	<i>ATM</i>	p.Pro604Ser	missense_variant	germline
Patient 8	<i>KDR</i>	p.Val297Ile	<i>KDR</i>	p.Val297Ile	missense_variant	germline
	<i>KIT</i>	p.Lys546Lys	<i>KIT</i>	p.Lys546Lys	synonymous_variant	germline

	<i>MSH6</i>	p.Gly1072Val	<i>MSH6</i>	p.Gly1072Val	missense_variant	germline
	<i>APC</i>	p.Thr1301fs			frameshift_variant	somatic
	<i>TP53</i>	p.Arg175His			missense_variant	somatic
Patient 9	<i>ATM</i>	p.Phe858Leu	<i>ATM</i>	p.Phe858Leu	missense_variant	germline
	<i>ERBB2</i>	p.Ile655Val	<i>ERBB2</i>	p.Ile655Val	missense_variant	germline
	<i>FGFR3</i>	p.Asn294Asn	<i>FGFR3</i>	p.Asn294Asn	synonymous_variant	germline
	<i>HRAS</i>	p.His27His	<i>HRAS</i>	p.His27His	synonymous_variant	germline
	<i>IDH1</i>	p.Gly105Gly	<i>IDH1</i>	p.Gly105Gly	synonymous_variant	germline
	<i>KDR</i>	p.Cys482Arg	<i>KDR</i>	p.Cys482Arg	missense_variant	germline
	<i>KDR</i>	p.Gln472His	<i>KDR</i>	p.Gln472His	missense_variant	germline
	<i>PIK3CA</i>	p.Ile391Met	<i>PIK3CA</i>	p.Ile391Met	missense_variant	germline
	<i>RET</i>	p.Ser904Ser	<i>RET</i>	p.Ser904Ser	synonymous_variant	germline
	<i>TP53</i>	p.Arg213Arg	<i>TP53</i>	p.Arg213Arg	synonymous_variant	germline
Patient 10	<i>TSC2</i>	p.Ser1557Ser	<i>TSC2</i>	p.Ser1557Ser	synonymous_variant	germline
	<i>APC</i>	p.Arg1114*			stop_gained	somatic
	<i>KRAS</i>	p.Gly12Val			missense_variant	somatic
			<i>ERBB2</i>	p.Ile655Val	missense_variant	germline
			<i>KRAS</i>	p.Asp173Asp	synonymous_variant	germline
			<i>PDGFRA</i>	p.Val824Val	synonymous_variant	germline
			<i>RET</i>	p.Ser904Ser	synonymous_variant	germline
			<i>TSC2</i>	p.Ala1560Ala	synonymous_variant	germline
			<i>KRAS</i>	p.Gly12Ala	missense_variant	somatic
			<i>TP53</i>	p.Arg306*	stop_gained	somatic
Patient 12	<i>PDGFRA</i>	p.Val824Val	<i>PDGFRA</i>	p.Val824Val	synonymous_variant	germline
	<i>ERBB2</i>	p.Ile655Val	<i>ERBB2</i>	p.Ile655Val	missense_variant	germline
Patient 13			<i>ERBB2</i>	p.Ile655Val	missense_variant	germline
			<i>PDGFRA</i>	p.Val824Val	synonymous_variant	germline
			<i>PIK3CA</i>	p.Ile391Met	missense_variant	germline
			<i>APC</i>	p.Glu1309fs	frameshift_variant	somatic
			<i>TP53</i>	p.Leu257Pro	missense_variant	somatic
Patient 14	<i>EGFR</i>	p.Gln787Gln	<i>EGFR</i>	p.Gln787Gln	synonymous_variant	germline
	<i>ERBB2</i>	p.Leu696Leu	<i>ERBB2</i>	p.Leu696Leu	synonymous_variant	germline
	<i>FGFR3</i>	p.Asn294Asn	<i>FGFR3</i>	p.Asn294Asn	synonymous_variant	germline
	<i>HRAS</i>	p.His27His	<i>HRAS</i>	p.His27His	synonymous_variant	germline
	<i>KDR</i>	p.Val297Ile	<i>KDR</i>	p.Val297Ile	missense_variant	germline
	<i>APC</i>	p.Arg1114*			stop_gained	somatic
Patient 15	<i>ERBB2</i>	p.Ile655Val	<i>ERBB2</i>	p.Ile655Val	missense_variant	germline
	<i>HRAS</i>	p.His27His	<i>HRAS</i>	p.His27His	synonymous_variant	germline
	<i>KDR</i>	p.Gln472His	<i>KDR</i>	p.Gln472His	missense_variant	germline
	<i>KDR</i>	p.Val297Ile	<i>KDR</i>	p.Val297Ile	missense_variant	germline
	<i>MET</i>	p.Ser178Ser	<i>MET</i>	p.Ser178Ser	synonymous_variant	germline
	<i>MET</i>	p.Asn375Ser	<i>MET</i>	p.Asn375Ser	missense_variant	germline
	<i>RET</i>	p.Ser904Ser	<i>RET</i>	p.Ser904Ser	synonymous_variant	germline
	<i>TP53</i>	p.Val272Leu			missense_variant	somatic
Patient 16	<i>FGFR3</i>	p.Asn294Asn	<i>FGFR3</i>	p.Asn294Asn	synonymous_variant	germline
	<i>HRAS</i>	p.His27His	<i>HRAS</i>	p.His27His	synonymous_variant	germline
	<i>IDH1</i>	p.Gly105Gly	<i>IDH1</i>	p.Gly105Gly	synonymous_variant	germline
	<i>KDR</i>	p.Val297Ile	<i>KDR</i>	p.Val297Ile	missense_variant	germline
	<i>KRAS</i>	p.Asp173Asp	<i>KRAS</i>	p.Asp173Asp	synonymous_variant	germline
	<i>MET</i>	p.Arg970Cys	<i>MET</i>	p.Arg970Cys	missense_variant	germline
	<i>PDGFRA</i>	p.Val824Val	<i>PDGFRA</i>	p.Val824Val	synonymous_variant	germline
	<i>RET</i>	p.Ser904Ser	<i>RET</i>	p.Ser904Ser	synonymous_variant	germline
Patient 17	<i>ERBB2</i>	p.Ile655Val	<i>ERBB2</i>	p.Ile655Val	missense_variant	germline
	<i>KIT</i>	p.Lys546Lys	<i>KIT</i>	p.Lys546Lys	synonymous_variant	germline
	<i>PDGFRA</i>	p.Val824Val	<i>PDGFRA</i>	p.Val824Val	synonymous_variant	germline
	<i>APC</i>	p.Ser1356*			stop_gained	somatic
	<i>TP53</i>	p.Leu188fs			frameshift_variant	somatic
Patient 19	<i>EGFR</i>	p.Ala613Ala	<i>EGFR</i>	p.Ala613Ala	synonymous_variant	germline
	<i>FLT3</i>	p.Ile827Leu	<i>FLT3</i>	p.Ile827Leu	missense_variant	germline
	<i>HRAS</i>	p.His27His	<i>HRAS</i>	p.His27His	synonymous_variant	germline
	<i>KRAS</i>	p.Asp173Asp	<i>KRAS</i>	p.Asp173Asp	synonymous_variant	germline
	<i>PDGFRA</i>	p.Val824Val	<i>PDGFRA</i>	p.Val824Val	synonymous_variant	germline
	<i>RET</i>	p.Ser904Ser	<i>RET</i>	p.Ser904Ser	synonymous_variant	germline
Patient 20	<i>ATM</i>	p.Asp2661Asp	<i>ATM</i>	p.Asp2661Asp	synonymous_variant	germline
	<i>IDH1</i>	p.Gly105Gly	<i>IDH1</i>	p.Gly105Gly	synonymous_variant	germline
	<i>KDR</i>	p.Gln472His	<i>KDR</i>	p.Gln472His	missense_variant	germline
	<i>KIT</i>	p.Met541Leu	<i>KIT</i>	p.Leu862Leu	missense_variant	germline
	<i>KIT</i>	p.Leu862Leu	<i>KIT</i>	p.Met541Leu	synonymous_variant	germline
	<i>KRAS</i>	p.Asp173Asp	<i>KRAS</i>	p.Asp173Asp	synonymous_variant	germline
	<i>RET</i>	p.Ser904Ser	<i>RET</i>	p.Ser904Ser	synonymous_variant	germline
Patient 21	<i>PDGFRA</i>	p.Val824Val	<i>PDGFRA</i>	p.Val824Val	synonymous_variant	germline
	<i>KIT</i>	p.Leu862Leu	<i>KIT</i>	p.Leu862Leu	synonymous_variant	germline
	<i>KDR</i>	p.Val297Ile	<i>KDR</i>	p.Val297Ile	missense_variant	germline
	<i>KRAS</i>	p.Asp173Asp	<i>KRAS</i>	p.Asp173Asp	synonymous_variant	germline
	<i>ERBB2</i>	p.Ile655Val	<i>ERBB2</i>	p.Ile655Val	missense_variant	germline

	<i>APC</i>	p.Gln1367*			stop_gained	somatic
Patient 22	<i>EGFR</i>	p.Ala613Ala	<i>EGFR</i>	p.Ala613Ala	synonymous_variant	germline
	<i>HRAS</i>	p.His27His	<i>HRAS</i>	p.His27His	synonymous_variant	germline
	<i>KRAS</i>	p.Gly12Asp			missense_variant	somatic
Patient 23	<i>HRAS</i>	p.His27His	<i>HRAS</i>	p.His27His	synonymous_variant	germline
	<i>KIT</i>	p.Met541Leu	<i>KIT</i>	p.Met541Leu	missense_variant	germline
	<i>KIT</i>	p.Leu862Leu	<i>KIT</i>	p.Leu862Leu	synonymous_variant	germline
	<i>RET</i>	p.Ser904Ser	<i>RET</i>	p.Ser904Ser	synonymous_variant	germline
	<i>APC</i>	p.Arg876*			stop_gained	somatic
	<i>APC</i>	p.Gly1466fs			frameshift_variant	somatic
	<i>KRAS</i>	p.Gly13Asp			missense_variant	somatic
	<i>TP53</i>	p.Glu258Asp			missense_variant	somatic
Patient 24	<i>IDH1</i>	p.Gly105Gly	<i>IDH1</i>	p.Gly105Gly	synonymous_variant	germline
	<i>KDR</i>	p.Cys482Arg	<i>KDR</i>	p.Cys482Arg	missense_variant	germline
	<i>KDR</i>	p.Gln472His	<i>KDR</i>	p.Gln472His	missense_variant	germline
	<i>KRAS</i>	p.Asp173Asp	<i>KRAS</i>	p.Asp173Asp	synonymous_variant	germline
	<i>MET</i>	p.Ser178Ser	<i>MET</i>	p.Ser178Ser	synonymous_variant	germline
	<i>MET</i>	p.Asn375Ser	<i>MET</i>	p.Asn375Ser	missense_variant	germline
	<i>PDGFRA</i>	p.Val824Val	<i>PDGFRA</i>	p.Val824Val	synonymous_variant	germline
Patient 25	<i>ERBB2</i>	p.Ile655Val	<i>ERBB2</i>	p.Ile655Val	missense_variant	germline
	<i>FGFR3</i>	p.Phe384Leu	<i>FGFR3</i>	p.Phe384Leu	missense_variant	germline
	<i>IDH1</i>	p.Gly105Gly	<i>IDH1</i>	p.Gly105Gly	synonymous_variant	germline
	<i>KIT</i>	p.Lys546Lys	<i>KIT</i>	p.Lys546Lys	synonymous_variant	germline
	<i>APC</i>	p.Gln1291*			stop_gained	somatic
	<i>TP53</i>	p.Arg248Gln			missense_variant	somatic

AA: Aminoacids.



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