Supplemental Table 1. Concordance between IHC patterns and germline MMR gene PVs. Green-shaded cells represent germline PVs expected by the corresponding IHC result. Red-shaded cells represent germline PVs that were unexpected based on the corresponding IHC result.

IHC pattern	Germline PV			
	MLH1	*MSH2/EPCAM*	*MSH6*	*PMS2*
MLH1	green	red	red	green
MLH1/MSH2	green	green	red	green
MLH1/MSH2/MSH6	green	green	green	green
MLH1/MSH2/PMS2	green	green	red	green
MLH1/MSH2/MSH6/PMS2	green	green	green	green
MLH1/MSH6	green	green	green	green
MLH1/MSH6/PMS2	green	green	green	green
MLH1/PMS2	green	red	red	green
MSH2	red	green	red	red
MSH2/MSH6	red	green	green	red
MSH2/MSH6/PMS2	green	green	green	green
MSH2/PMS2	green	green	red	green
MSH6	red	green	green	red
MSH6/PMS2	green	green	green	green
PMS2	green	red	red	green

Supplemental Table 2. IHC patterns in cases with monoallelic *MUTYH* PVs identified.

IHC patterns	Germline monoallelic *MUTYH* PV
MSH6	c.1227_1228dupGG (p.Glu410Glyfs*43)
MSH2; MSH6	c.933+3A>C
MLH1; PMS2	c.934-2A>G
MLH1; PMS2	c.536A>G (p.Tyr179Cys)
MLH1	c.1187G>A (p.Gly396Asp)
MLH1	c.1187G>A (p.Gly396Asp)