

Supplementary Materials:

8-Oxoguanine DNA Glycosylase (OGG1) Cys326 Variant: Increased Risk for Worse Outcome of Patients with Locally Advanced Rectal Cancer after Multimodal Therapy

Table S1. Primer sequences for multiplex PCR (MPCR) and polymorphic sites to be assayed (SNaPshot™ primer).

| Gene | SNP | MPCR primer, forward 5'→3' | MPCR primer, reverse 5'→3' | SNaPshot™ primer, 5'→3' |
|------|-----------|------------------------------|---------------------------------|---|
| CAT | rs1001179 | CCTCGGGAGGACTGCCTTCTGA | CCCCACCCAGCAGGGTCTAAGTATTC | (ACTGACTG) ₂ ACTCGCCCTGGGTTCGGCTAT |
| CAT | rs769214 | TCCTAGCACCTGAGGAGGTGTAGAAATC | CTGCCAAATTGGCTTCTTTAAACACTG | CAGAAATCTGCTTCCCCAAATTTTAC |
| CYBA | rs1049255 | GTGACCGACGAGGTCGTGTGA | GGAAGGCGATGCTGATGTTAATGAAAC | CCCGGACCTGCCCTCCC |
| GPX1 | rs1050450 | AGGGCAAAATCCCGGTGACTCATAG | TGGTCTGGCAGAGACTGGGATCAAC | (TGAC) ₄ TCCCTGCTGTCTCAAGGGC |
| MPO | rs2333227 | CGCCCTAGCCTCTAGCCACATCATC | ACCAGAATTTTACAGAGGGGTTAGTTGTGTG | GACTTGACCTCAAGTGATCCACC |
| OGG1 | rs1052133 | ACTCCACCCTCCTACAGGTGCTGTTC | GTGGGGATGGGGAGAGAGAAGTG | (TGAC) ₈ TCCGACCTGCGCCAAT |
| SOD2 | rs4880 | CGGGCTGTGCTTTCTCGTCTTC | ATCTGCGCGTTGATGTGAGGTTT | (GACT) ₂ GAGCCCAGATACCCAAA |
| SOD3 | rs699473 | CACCCGCTGCTCTGCTCTCATAG | CGGCTTGTAGCCAGTGACCTTCAG | CTGACTGCACCTTGCAAATGTGC |

Table S2. Employed lymphoblastoid cell lines with their identifier of the Coriell institute (<http://ccr.coriell.org>, accessed on 3 June 2021). These cell lines are all of Caucasian origin.

| | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|
| HG00096 | HG00097 | HG00099 | HG00100 | HG00101 | HG00102 | HG00103 | HG00104 |
| HG00106 | HG00108 | HG00109 | HG00110 | HG00111 | HG00112 | HG00113 | HG00114 |
| HG00116 | HG00117 | HG00118 | HG00119 | HG00120 | HG00121 | HG00122 | HG00123 |
| HG00124 | HG00125 | HG00126 | HG00127 | HG00128 | HG00129 | HG00130 | HG00131 |
| HG00133 | HG00134 | HG00135 | HG00136 | HG00137 | HG00138 | HG00139 | HG00140 |
| HG00141 | HG00142 | HG00143 | HG00146 | HG00148 | HG00149 | HG00150 | HG00151 |
| HG00152 | HG00154 | HG00155 | HG00156 | HG00158 | HG00159 | HG00160 | HG00231 |
| HG00232 | HG00233 | HG00234 | HG00235 | HG00236 | HG00237 | HG00238 | HG00239 |
| HG00240 | HG00242 | HG00243 | HG00244 | HG00245 | HG00246 | HG00247 | HG00249 |
| HG00250 | HG00251 | HG00252 | HG00253 | HG00254 | HG00255 | HG00256 | HG00257 |
| HG00258 | HG00259 | HG00260 | HG00261 | HG00262 | HG00263 | HG00264 | HG00265 |
| NA06984 | NA06985 | NA06986 | NA06989 | NA06993 | NA06994 | NA07000 | NA07022 |
| NA07034 | NA07037 | NA07051 | NA07055 | NA07056 | NA07345 | NA07357 | NA11829 |
| NA11831 | NA11832 | NA11839 | NA11840 | NA11843 | NA11881 | NA11882 | NA11892 |
| NA11893 | NA11894 | NA11919 | NA11920 | NA11830 | NA11931 | NA11932 | NA11933 |
| NA11992 | NA11993 | NA11994 | NA11995 | NA12003 | NA12004 | NA12005 | NA12006 |
| NA12043 | NA12044 | NA12045 | NA12056 | NA12057 | NA12058 | NA12144 | NA12145 |
| NA12146 | NA12154 | NA12155 | NA12234 | NA12239 | NA12248 | NA12249 | NA12272 |
| NA12273 | NA12282 | NA12283 | NA12286 | NA12287 | NA12347 | NA12348 | NA12383 |
| NA12399 | NA12400 | NA12413 | NA12489 | NA12546 | NA12717 | NA12718 | NA12749 |
| NA12750 | NA12751 | NA12761 | NA12762 | NA12763 | NA12775 | NA12777 | NA12778 |
| NA12812 | NA12813 | NA12814 | NA12815 | NA12827 | NA12829 | NA12830 | NA12842 |
| NA12843 | NA12872 | NA12873 | NA12874 | NA12875 | NA12889 | NA12890 | NA12891 |
| NA12892 | | | | | | | |

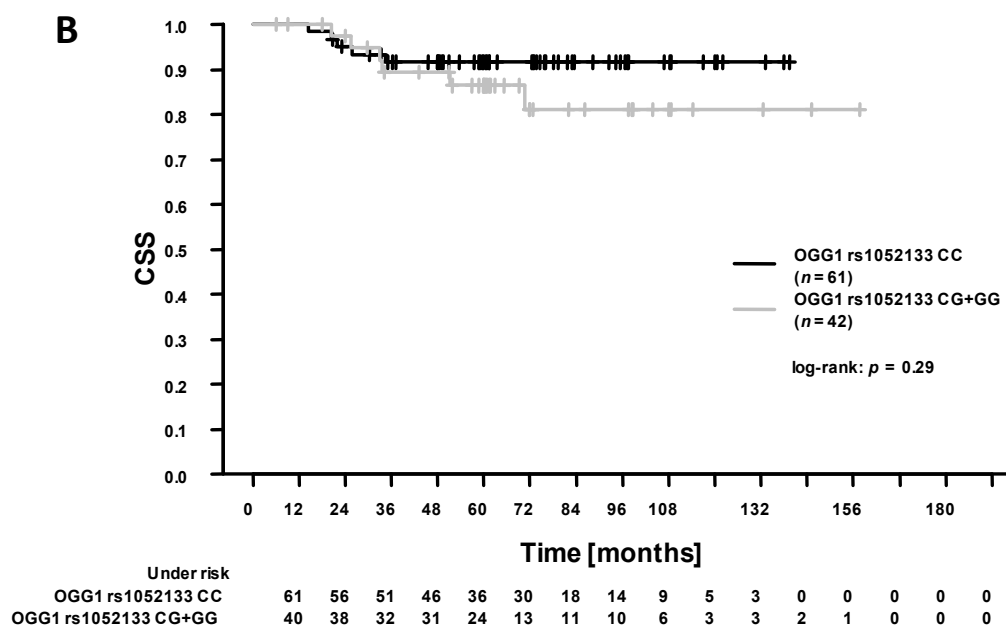
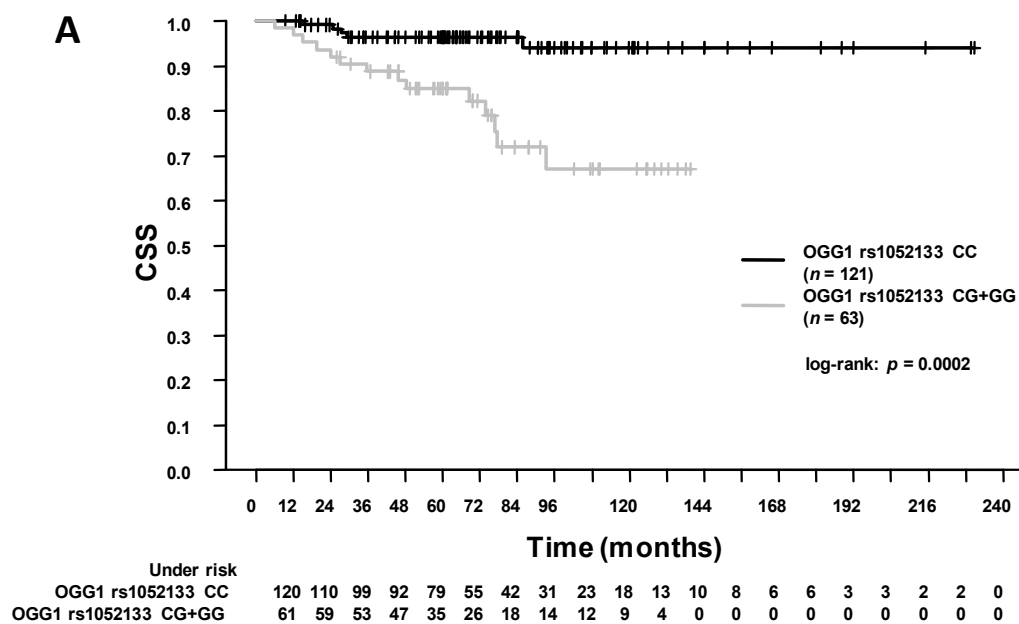


Figure S1. CSS in dependence on the OGG1 rs1052133 polymorphism stratified by sort of chemotherapy concomitant to irradiation: 5-FU mono (panel **A**), addition of oxaliplatin (**B**).

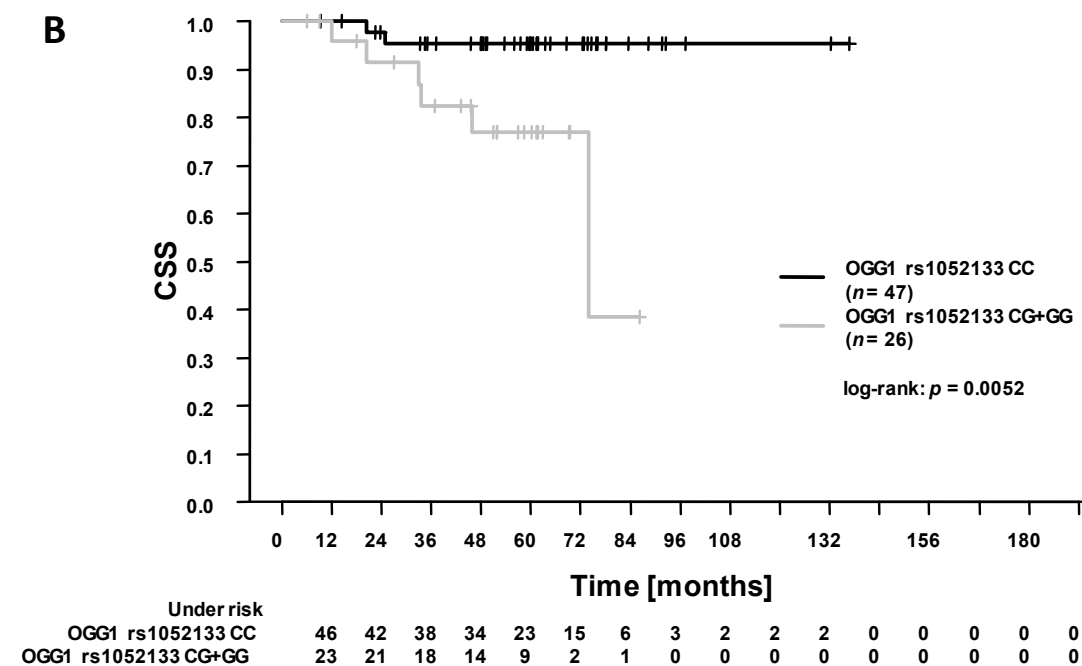
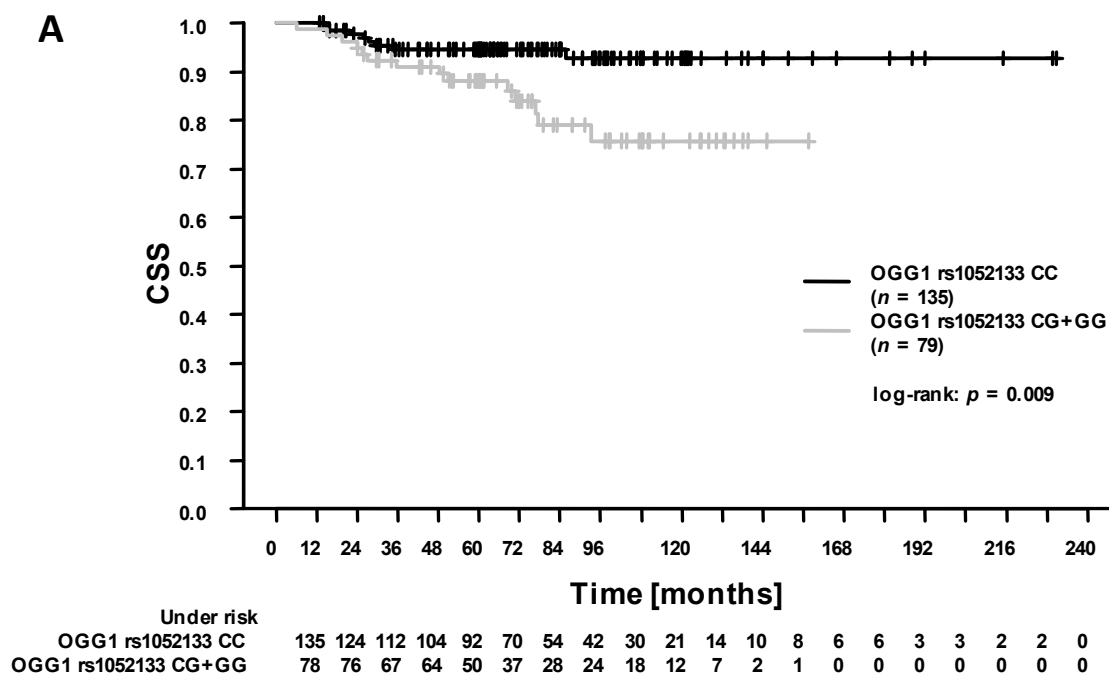


Figure S2. CSS in dependence on the OGG1 rs1052133 polymorphism stratified by whether adjuvant chemotherapy was given: yes (panel A), no (B).

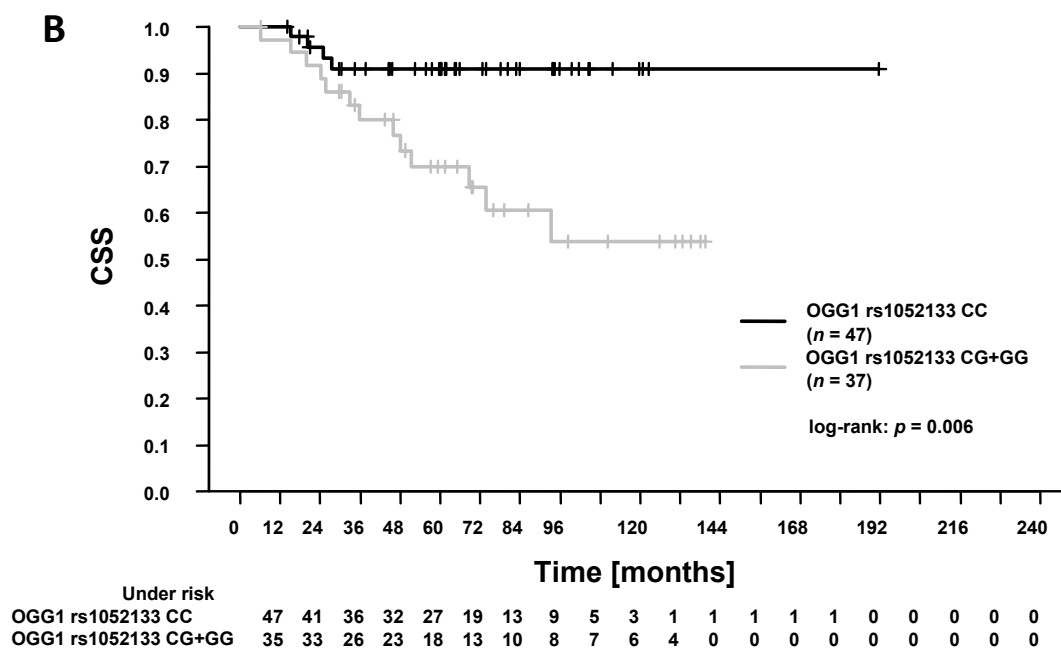
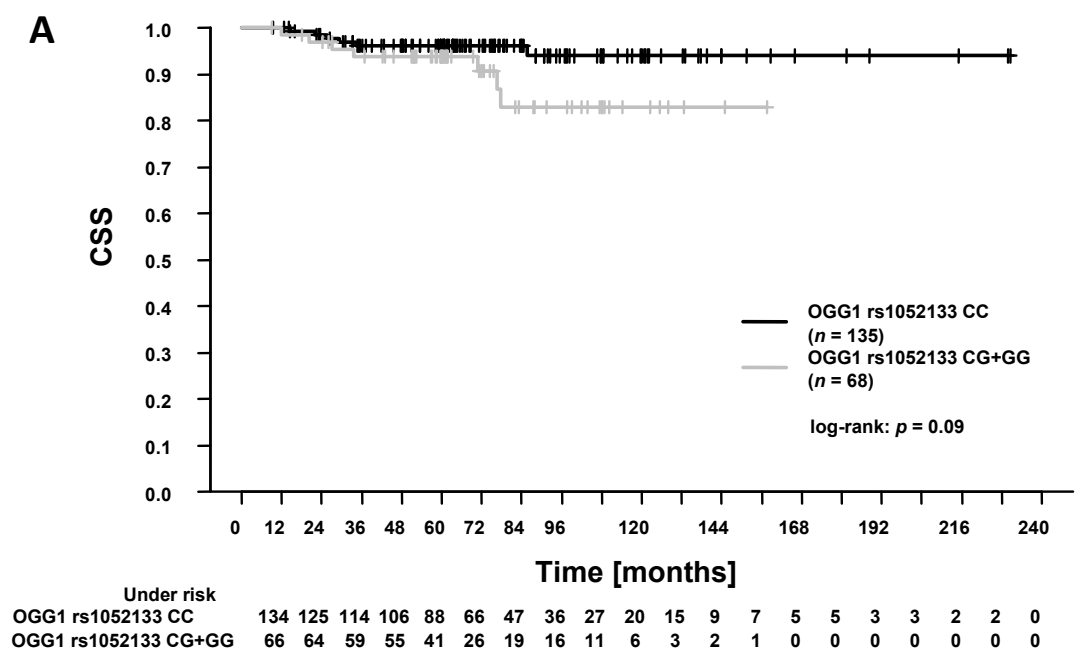


Figure S3. CSS in dependence on the OGG1 rs1052133 polymorphism stratified by post-surgery ypN status: ypN0 (panel A), ypN+ (B).

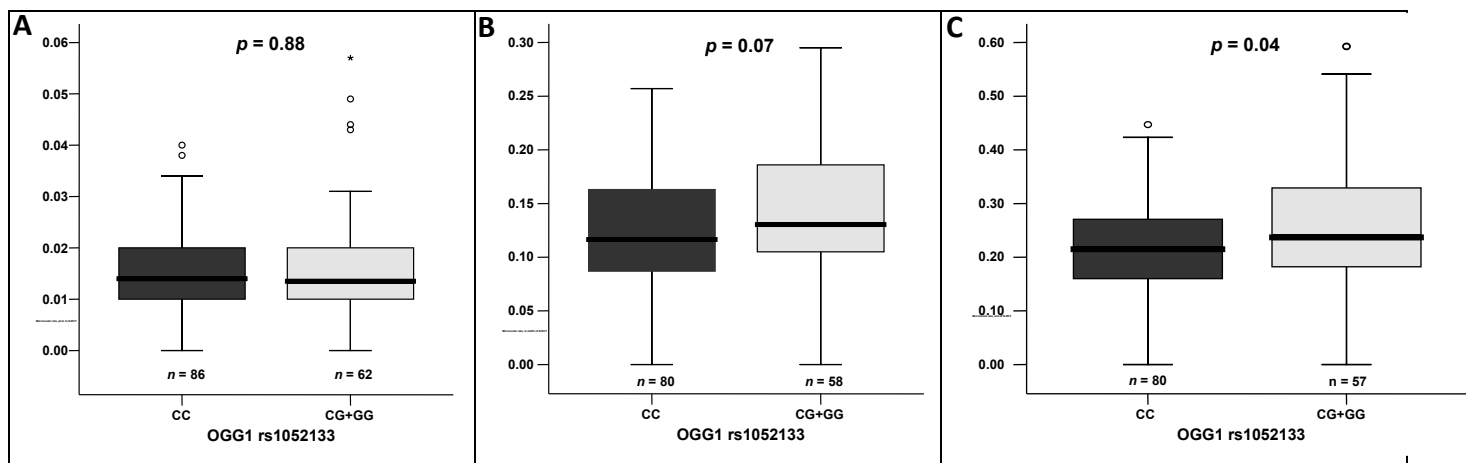


Figure S4. Micronuclei rate in patient leucocytes stratified by OGG1 rs1052133 during the time course of N-RCT: prior to start (panel **A**), in the mid (panel **B**), and at the end (panel **C**). The statistical difference was evaluated by Mann-Whitney U test with the respective P values given in the plots. Sample numbers for each group are given in the plots. The box-plots indicate the data distributions as follows: The rectangle represents 50% of the values of a given distribution with the lower horizontal line reflecting the 25% (Q₂₅), and the upper the 75% (Q₇₅) quartile. The difference of these two delimiters is called the interquartile distance (IQA). Values within 1.5-times of the IQA below Q₂₅ or 1.5-times above Q₇₅ are depicted by the whiskers of the blot (vertical line limited by short horizontal). Values out of this range are either marked by circles (>1.5-times, but ≤ 3-times of IQA referred to Q₂₅ or Q₇₅) or asterisks (beyond 3-times of IQA on either side). Statistical assessment was performed by Mann-Whitney U test.

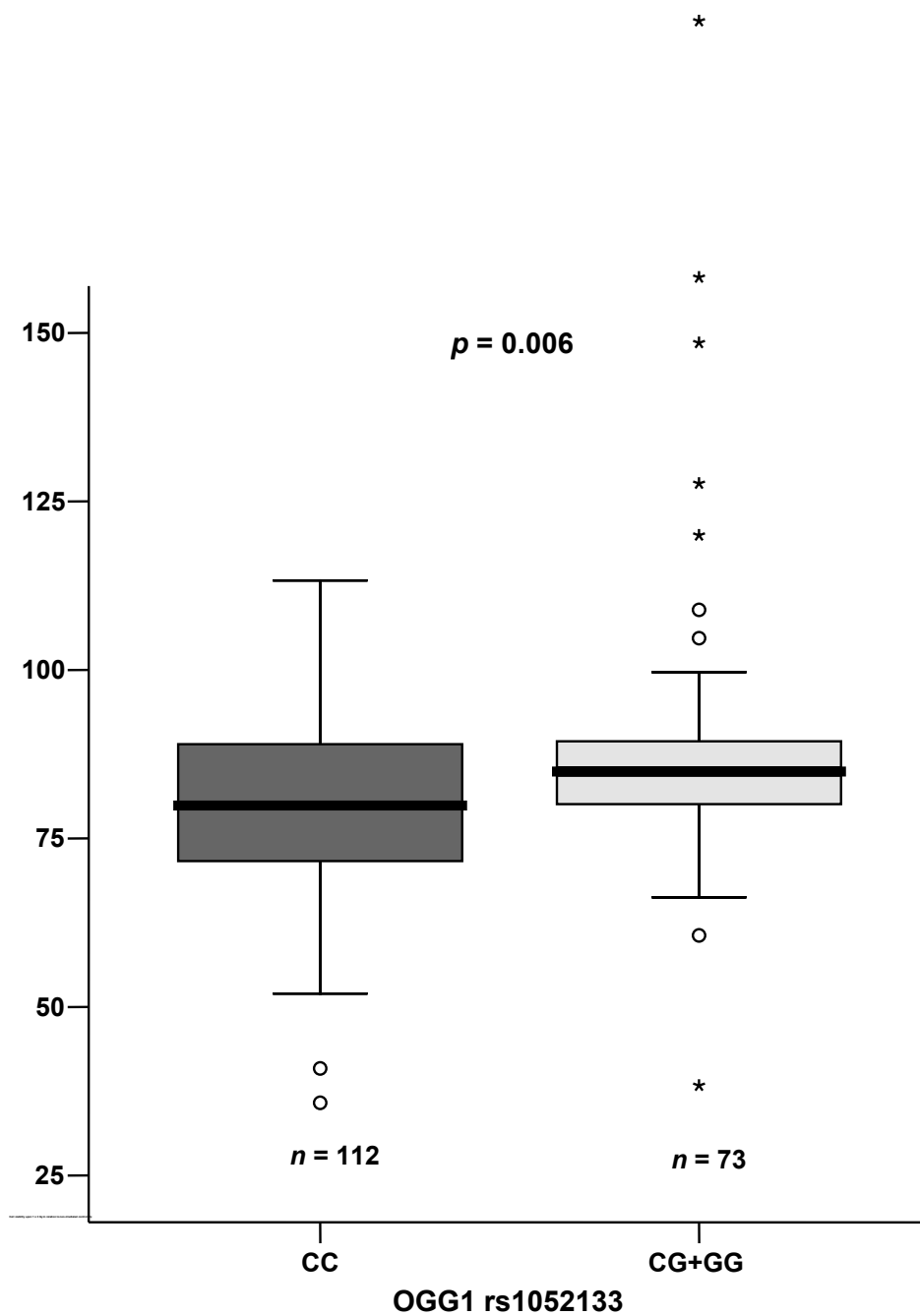


Figure S5. Cell viability of lymphoblastoid cells (LCLs) upon 30 h of 1 x 3 Gy photon irradiation in relation to non-irradiated control in dependence on the OGG1 rs1052133 status. Cell viability was determined using alamarBlue™ reagent. For box plot description and statistical assessment please refer to Figure S4.