

Supplementary Materials

Table S1. Selected gene groups for RT-PCR analysis of neoblast marker genes.

Gene name	Description	NCBI Reference Sequence	Primer F	Primer R
<i>smcd-hnf-4</i>	olfactory receptor 4C6 [Homo sapiens]	JF802199.1	CGACGCGTTAGACGCATAGAC	GCTTCCTCGATGCAATATCCAT
<i>Smed-gata456</i>	transcription factor GATA-6 [Homo sapiens]	JF802198.1	TGTGTGAACTGTGGAGCTAGCAA	TTGAGAGAACCTGTTCGCATTTCAT
<i>Smed-prox-1</i>	prospero homeobox protein 1 [Homo sapiens]	JQ425149.1	TCATTTACGAAAGGCCAAACTTATG	TTGTAGAACGTGATATCAGGAAAATAGC
<i>Smed-soxB-1</i>	transcription factor SOX-2 [Homo sapiens]	JX091078.1	CACCAGCTTGGCAGAGAGATG	GCATAACCGGACGCCAGAT
<i>Smed-pbx-1</i>	pre-B-cell leukemia transcription factor 3 isoform 1 [Homo sapiens]	KC353351.1	CCGCTCAAATAAAATTCGGAAGAT	TCCAGTTACACCTTCAGCAATAAGC
<i>Smed-inx-13</i>	pannexin-2 isoform 1 [Homo sapiens]	JQ425145.1	TTGTTCCAGGGCGTTTCG	CCTCTCCGGCAAAGATTGG
<i>Smed-smad6/7</i>	mothers against decapentaplegic homolog 7 isoform 4 [Homo sapiens]	JQ278719.1	GACTGACGACAAACTGGAAATCG	CTTTAGCAGCATCCAGTGCAATT
<i>Smed-soxP-2</i>	transcription factor SOX-5 isoform c [Homo sapiens]	JQ425152.1	CGATTGATATAATCTGTCATGCTGTTG	CACGCCCTGAATACGACATTG
<i>Smed-nlk-1</i>	serine/threonine-protein kinase NLK [Homo sapiens]	JQ425157.1	CCCAAGAGGTTGTGACCCAATA	CCACATGTTCGACAGCGAATG
<i>Smed-soxP-3</i>	transcription factor SOX-9 [Homo sapiens]	JQ425153.1	CTGTTCGATTGGCTGGAAACC	CCGGCCTCGATCAATTACAA
<i>Smed-egr-1</i>	E3 SUMO-protein ligase EGR2 isoform b [Homo sapiens]	JQ425156.1	GCCGTGTCCGCTCATCAG	CGGCGAGAAGCCTTATTCCT
<i>Smed-zfp-1</i>	zinc finger protein 701 isoform 1 [Homo sapiens]	JQ425154.1	GCTTCACTCAAAGATCAAATCTACAGA	TTAGAGCAAACCTCCACATTTGTATGG
<i>Smed-fgfr-1</i>	fibroblast growth factor receptor 1 isoform 14 precursor [Homo sapiens]	JQ425160.1	CATCCAATAAGTGCGCTTCTCTT	CAGTGGAAGCTCCAGAATTGAAA

Table S2. Selected gene groups for RT-PCR analysis of oxidative stress response genes.

Gene name	Description	Schmidtea mediterranea genome database (SmedGD)	Primer F	Primer R
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		Reference Sequence		
<i>Smed-gss</i>	glutathione synthetase [Homo sapiens]	SMU15015253	TGCGCAGCAAACCGACTA	GCTATCGATGCATCCAAATCC
<i>Smed-gpx4</i>	glutathione peroxidase 4 (phospholipid hydroperoxidase) [Homo sapiens]	SMU15039906	AAGGCGATGTTGTACTCGTTGTT	GAAGCTTATGCAACTCCTGCAA
<i>Smed-alh2</i>	mitochondrial aldehyde dehydrogenase 2 [Homo sapiens]	SMU15017380	AGGACATCGACAAATCTTTGCA	GTTTGGGTGAATTGCTATGACGTA
<i>Smed-prx6</i>	peroxiredoxin-6 [Homo sapiens]	SMU15002827	ATAGCTGACACGGATCGAGATCT	GGATCAAGGAAGTAAACAGCTCTTG
<i>Smed-txn</i>	thioredoxin [Homo sapiens]	SMU15025476	TGGCTTCTTGTGATAAGTTAATTGTTG	CGAAAACGACGTCAGGAAATTC
<i>Smed-txnrd1</i>	thioredoxin reductase 1 [Homo sapiens]	SMU15008405	GGTGGTCGGTGGTAGCTATGTAG	GAACCATAACGGTCGTATCACATC
<i>Smed-sod1</i>	superoxide dismutase [Cu-Zn] [Homo sapiens]	SMU15030255	TGCACGAATGGCGAGATAATTA	TCCAATAACTCCACAAGCTACTCTTC
<i>Smed-pgd</i>	6-phosphogluconate dehydrogenase, decarboxylating isoform 1 [Homo sapiens]	SMU15001176	TTCACGCAAACGTCAACATGTAT	GCATATCACCATTGCAATTGGA
<i>Smed-taldo</i>	TALDO1 protein [Homo sapiens]	SMU15040687	CCAGGCCGTCGCATGT	GCCAATCATAAATTCTACCGACAA
<i>Smed-tkt</i>	transketolase isoform 1 [Homo sapiens]	SMU15039542	CGATGAGGAGTTGCTGAGGAA	GGGAAATGATCCTCGACAGTGA
<i>Smed-fth</i>	FTH1 protein [Homo sapiens]	SMU15023437	GAGAAACCAGCCAAAACGTATTG	TCTGTCAAGTGTGGATCAAAATGA
<i>Smed-gsts</i>	glutathione S-transferase omega-1 isoform 1 [Homo sapiens]	SMU15007045	GAACCGAAAGTTGATCGAAGTAAAC	CATGTTCAATTCCATGGTGAGATAA
<i>Smed-ptk1</i>	protein kinase 1 [Homo sapiens]	SMU30003323	CAATCAGTCCATGCCTGACTTG	GGTTGTGATAGTTCATAGTATGGTTTTGA
<i>Smed-gr2</i>	glutathione-disulfide reductase [Homo sapiens]	SMU15030732	CGACAGAAAATCCCTGTAGCATT	ATTTGTTTGCTTCCCGATGAA
<i>Smed-ugt2b7</i>	UDP-glucuronosyltransferase 2B7 isoform 1 precursor [Homo sapiens]	SMU15001980	TTTAATATTGAGCATTCCGATGGA	CAGACCTGTGAAATGTCAATAACGT
<i>Smed-g6pd</i>	glucose-6-phosphate 1-dehydrogenase isoform b [Homo sapiens]	SMU15012454	AACCCGGTGAGGCGATTTAT	AACGTCATTGAGTCGCCAGTT
<i>Smed-cat</i>	catalase [Homo sapiens]	SMU15017976	GGCTCATTTTGACCGAGAAAGA	GCACTCAAAGAAACCGAAAGCT
<i>Smed-3705</i>	kelch like ECH associated protein 1 [Homo sapiens]	SMU15003705	AGATTATCCAGTGACACCTTTGCA	CCAGATTTTCCAGCGTCCAT
<i>Smed-9751</i>	kelch-like protein 20 [Homo sapiens]	SMU15039751	TGATGTGCAGCAAAATGAGAAA	CCAGACAGAGACTTTGAAGGTGACT
<i>Smed-pgd</i>	6-phosphogluconate dehydrogenase, decarboxylating isoform 1 [Homo sapiens]	SMU15001176	TTCACGCAAACGTCAACATGTAT	GCATATCACCATTGCAATTGGA

<i>Smed-gcl</i>	glutamate--cysteine ligase catalytic subunit isoform a [Homo sapiens]	SMU15001870	AATGGATCGAACCAGCATAATACTG	GACCATATGGATAGCCTGGAACTC
<i>Smed-bmp</i>	BMP8A protein [Homo sapiens]	SMU15037612	CCATCAGAGAAAGTTCGCAGTAATTT	TGAGGCAATTTTTCCGACAAT
<i>Smed-alh1</i>	aldehyde dehydrogenase 1A1 [Homo sapiens]	SMU15001870	GGAGTTTGTTTCAGCGGGTTTAA	TTCATGCTGGCTGTTTTCAAATT

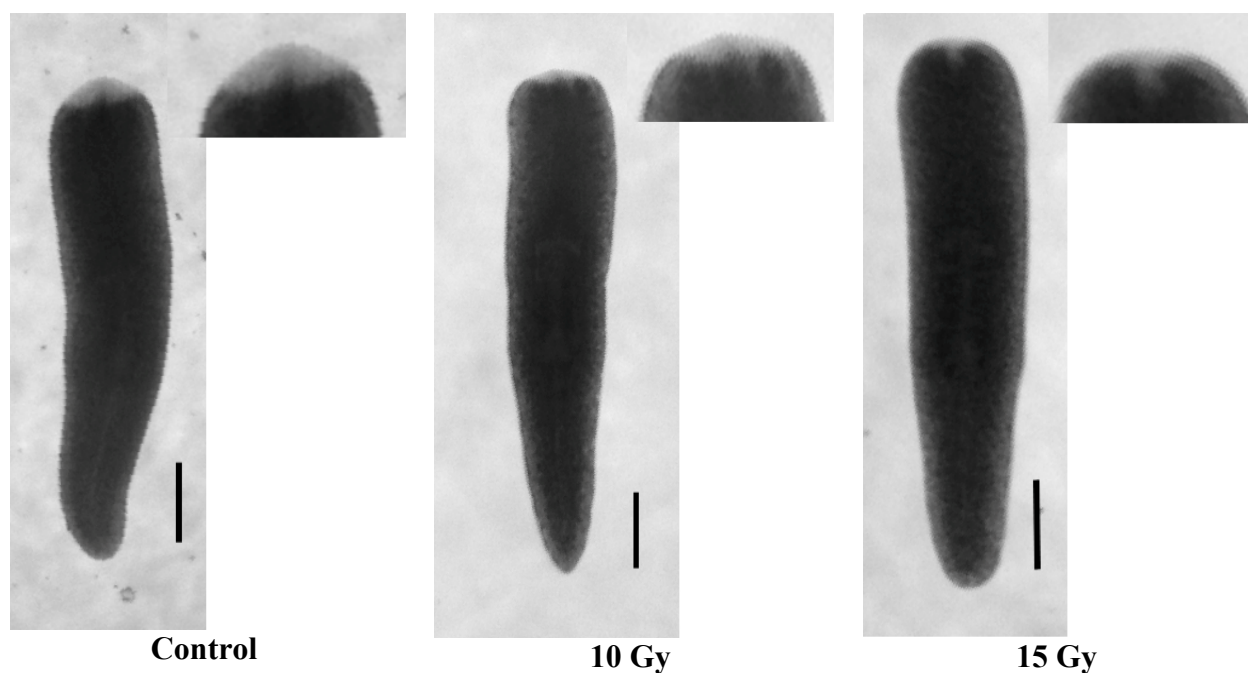


Figure S1. The representative photographs of regenerating planarians for blasthema growth rate analysis by means of computer morphometry. Depicted are planarians on third day after decapitation, the control and planarians after X-ray irradiation with doses of 10 and 15 Gy. Bar – 1 mm

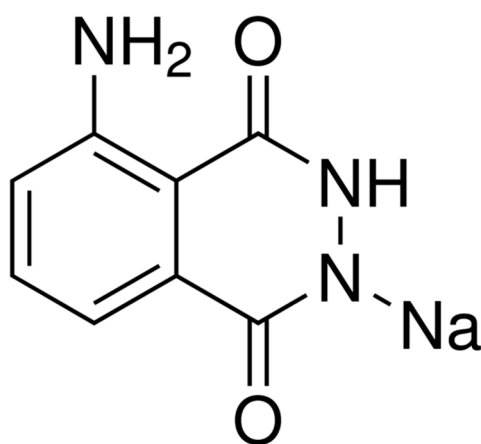


Figure S2. Structural chemical formula of Tameron (5-amino-2,3-dihydro-1,4-phthalazinedione sodium salt).

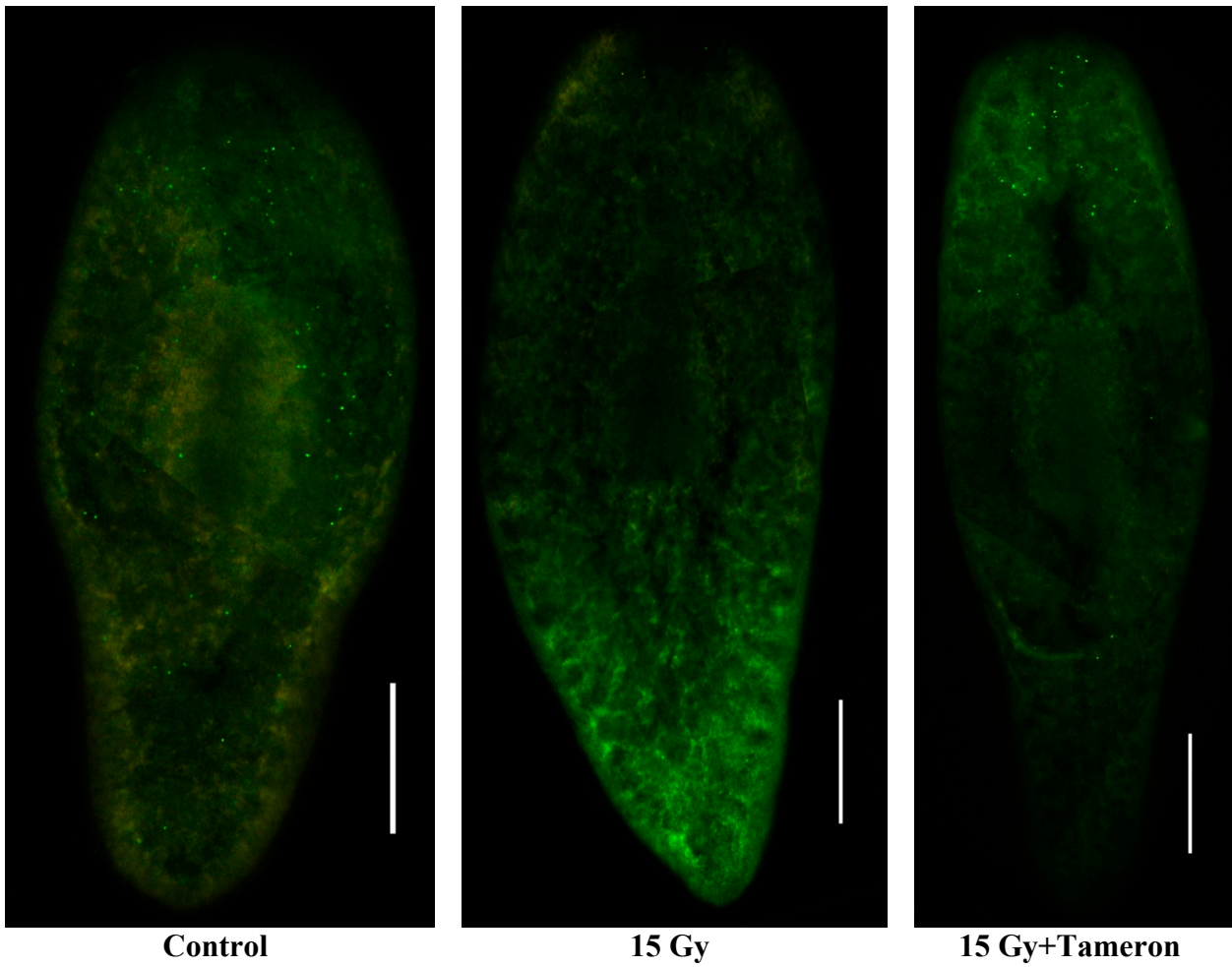


Figure S3. Mitotic cells in planarian bodies (whole-mount Immunocytochemistry) 7 days after 15 Gy irradiation. Bar – 1 mm