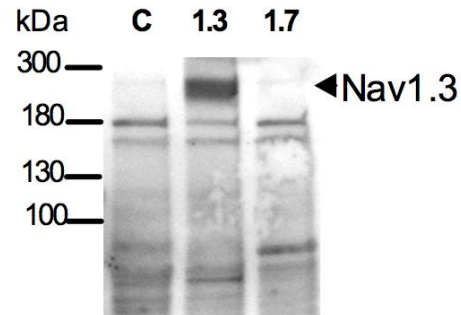


Supplementary Material:**Table S1**

Gene	Forward primer (5'-3')	Reverse Primer (3'-5')
Mouse Nav1.1	TACGATCGGGTGACAAAGCC	GACAAGGGGGTCACTGTCTT
Mouse Nav1.2	GATAGCGTGACCAAACCGGA	GTTTGGCGAGTCCCACCTTG
Mouse Nav1.3	TGGGAGTTCCTCTACCACCT	GTCCAGTTGACACGGACACT
Mouse Nav1.4	CCCCCATGATTCTGGGACAC	CCTTCCACAGTTCTTCCCCC
Mouse Nav1.5	GGCCACCAGTGATAACCTCC	CCGCCTCTAGCTTCAACACA
Mouse Nav1.6	ACCCACCGAGAGAAGAAGGA	CTGTGTCCGTGAGATTCGGA
Mouse Nav1.7	AGATGCAACAGCCTCTACCA	GAGTTTGGCATAGACCTCCGT
Mouse Nav1.8	CCCACCATCCTATGACAGCG	CATGCATCGGTGAGGCTGTA
Mouse Nav1.9	AAGTTCATCGCTCCAGGTGT	TCCTTCAGGCCTTCCGTTAC
Human Nav1.1	GTGACTACCATTTTGTACGCA	GCAAGACGGATCACTCGGAA
Human Nav1.2	AACCGATATGACGCCTTCCA	TGTGGGAGTCCTGTTGACAC
Human Nav1.3	ACCACCTCTCCTCCTTCCTATG	GAGTTGCAGTGACAGAGAGGT
Human Nav1.4	CATCAGCCCCTCAGACACTG	GAGCGCAATTCCCATTTCCT
Human Nav1.5	ACAGTGAAGATCTCGCCGAC	AACTCTGCCTGGTTGATCCG
Human Nav1.6	CCAAACGTCGTCTGCTTACC	GCAACGGAAATATGCTGGTCC
Human Nav1.7	AGATGCCACTTCATCCACCAC	AGTTAGTGACTGCACTGCCTT
Human Nav1.8	CAGATGGACCTGCCTTTGGT	GGCACACATGGGGTGTTAGA
Human Nav1.9	ACCCATAGTCACCACCACCA	AGCTATGAGGTAGGCGTGGA

Fig. S1 Nav1.3 antibody specificity. (A) Specificity of the antibody for Nav1.3 detection was verified by western blotting of protein lysates derived from HEK293 cells transfected with vector only (C) or with vector containing cDNA for Nav1.3 (1.3) or Nav1.7 (1.7). Only in Nav1.3 expressing cells a Nav1.3 specific band with a predicted MW of 226 kDa was detected by antibody ASC 004. (B) Immuno-fluorescent staining of ischemic heart section 72h after MI/R with antibodies against Ly6G (red) and a different Nav1.3 antibody directed against the extracellular part of Nav1.3 (ASC 023, green) showed double staining in a portion of PMNs similar to the pattern seen for Nav1.3 antibody ASC 004 used for all other stainings in this manuscript.

A



B

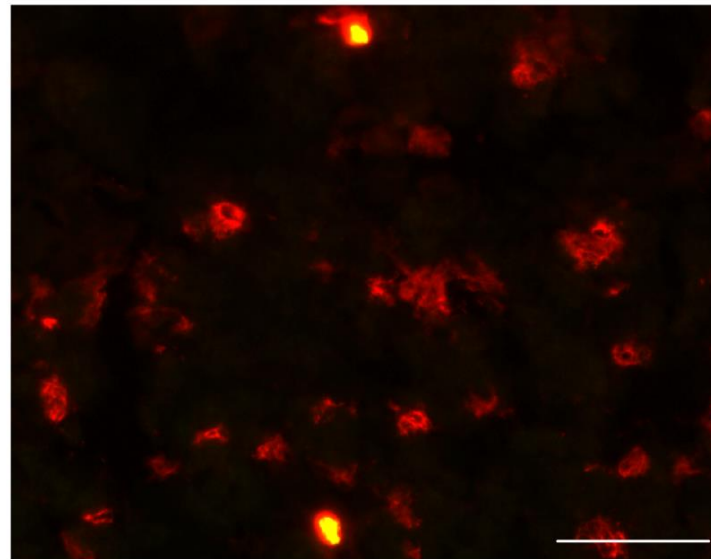


Fig. S2. Nav1.3 is expressed on neutrophils after MI/R and kidney ischemia. In ischemic mouse heart tissue 24h (A, C and E) or 72h (B and D) after MI/R Nav1.3 (green staining) co-localizes with some but not all GR-1 positive (red staining) neutrophils (A and B). (C, D) No co-localization was detected between Nav1.3 (green staining) and F4/80 positive macrophages (red staining). (E) In the border zone of the infarct we sometimes detect intact blood vessels that stain positive for Nav1.3 (arrow head). (F) In ischemic kidneys 24h after clipping one kidney for 45 minutes some but not all PMNs show intense Nav1.3 staining similar to stainings of MI/R. Scale bar = 100 μ m.

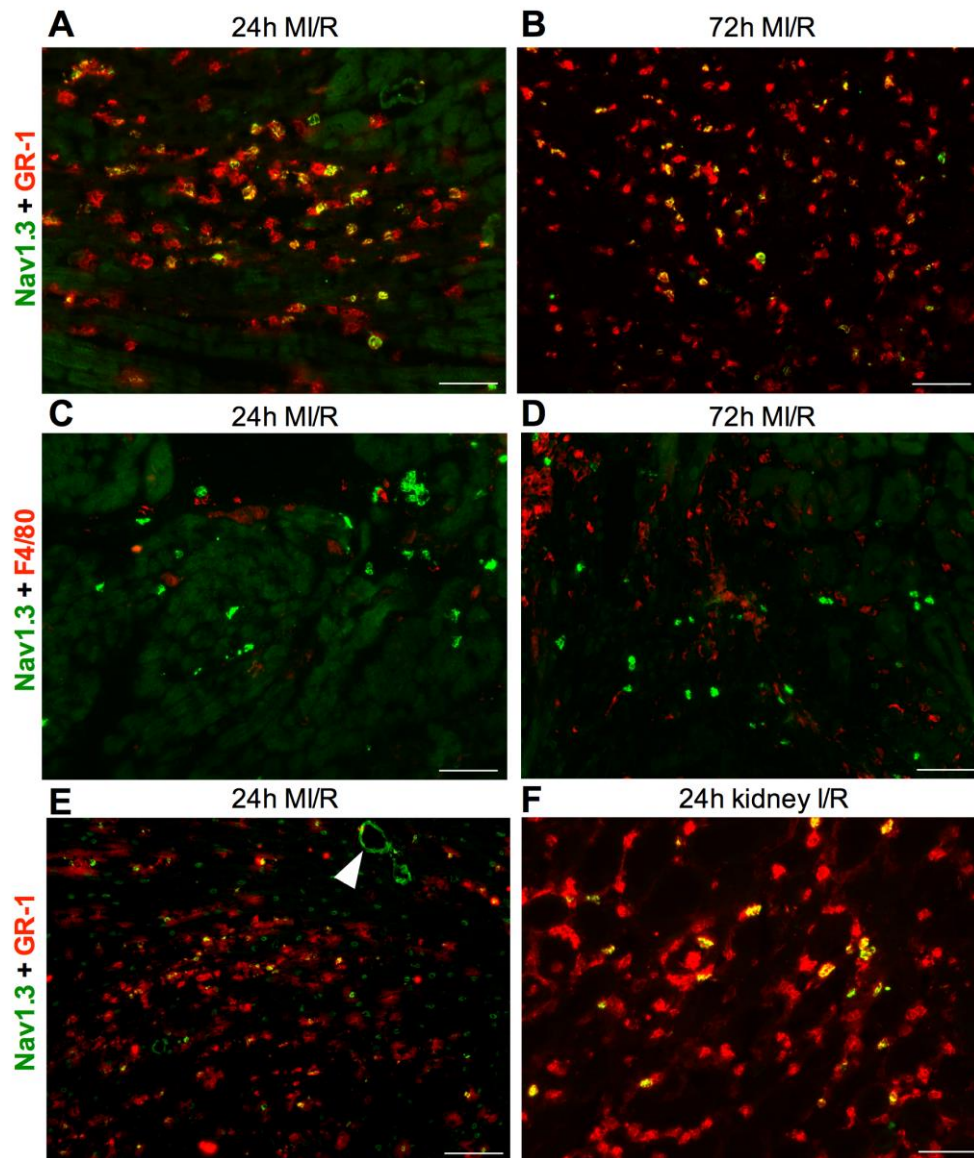


Fig. S3. Expression pattern of Nav1.1, Nav1.3, Nav1.5 and Nav1.7 in 72h MI/R hearts.

(A and C) In the infarct region of ischemic mouse heart tissue 72h after MI/R Nav1.1 (A) and Nav1.5 (C) displayed a diffuse staining pattern that is not associated with DAPI stained nuclei. (B) Nav1.3 showed a punctuated staining of DAPI stained cells that we have shown to co-localize with neutrophils. (D) Nav1.7 staining was observed outside the infarct zone in only minor or not damaged cardiomyocytes. Scale bar = 100 μ m.

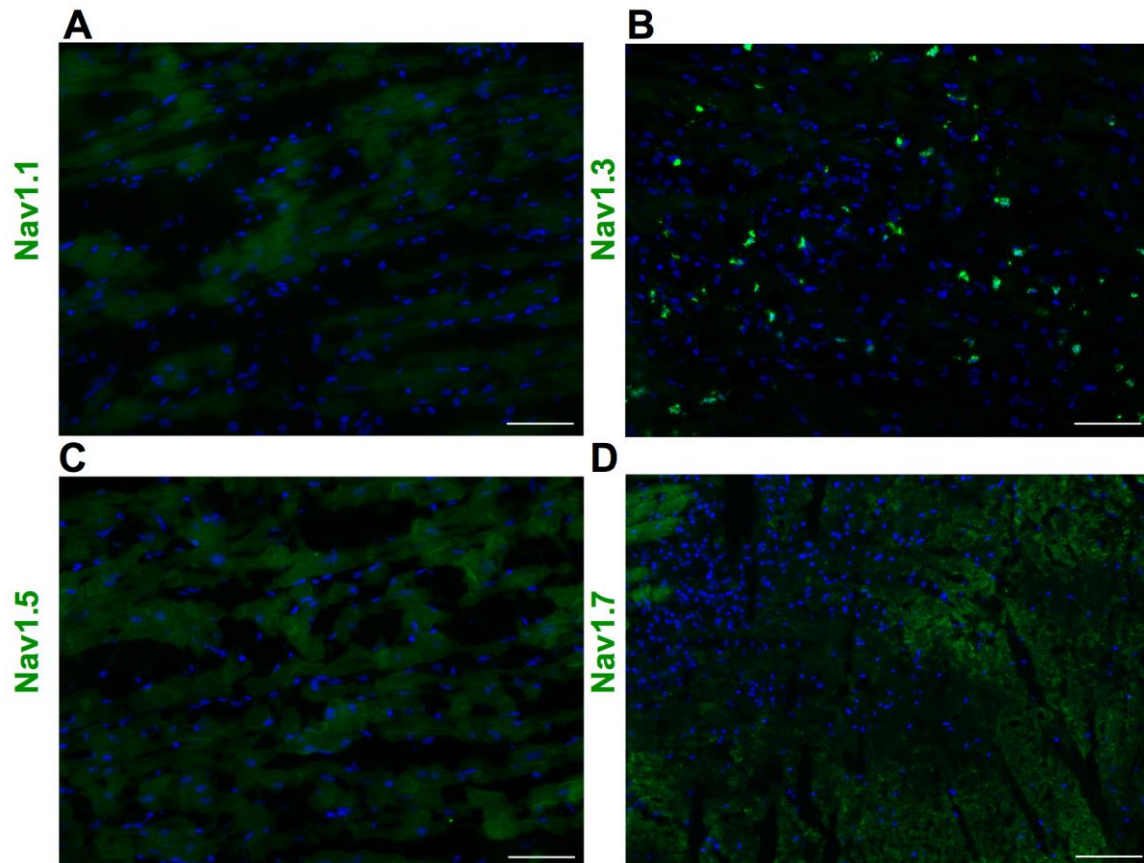


Fig. S4. Nav1.3 effects on ROS production.

Reactive oxygen species production of PMA-activated PMNs is not significantly altered after 60 minutes by co-incubation with the VGSC blockers TTX, ICA or PTX-2 (n = 3).

