

Hypoxia reduces and redirects selenoprotein biosynthesis

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Supplementary Table S1: Primer sequences

Gene name	Primer sequence (5' – 3')
SePP	TATGATAGATGTGGCCGTCTTG
DIO1	TGTGATGATGCTCATGATGGTA
GPX1	GGTGCAACATTTGGGAGTTTAT
GPX4	TGGTGATTTCTGATGTCCATGT
EFSec	GGGCAAGGTACTACTTATCGAG
SBP2	TTCAGAATCTCTTCGTTCTTGG
SEPHS2	GCTGTGGAAGTGGATGAAGA
PSTK	CTAGAAATAGTGGGGCAGGTC
SEPSECS	ATGCAGAAGACCCTAGGAACA
SCLY	AGAAACAGTGGTCCACAGACAT
PGK1	CAGTTCAAGAGCCCTCCAAGG
CA9	CATGCTGAGAGTGCTGCTTC
18S rRNA	TAACGCCACTCATGGTCAAA
	GGGTTCCCTAACGGTTTGGTT
	CACTGCTTTGGAAAATCCAG
	TTCGCTCTTACCCATCTTTG
	CAGGAAGAGCTTCAGCTTCA
	AGCTTTGTACGGTGTTTCAT
	TGGGGCACAAGTTTATGGT
	CCTCATAAGCCTCGCAGTTC
	GTTCTTGAAGGACTGTGTAGGC
	AAGCTCGGAAAGCTTCTATTTT
	GGAAGAAAACAGTGCCTATGAG
	AGAGACCCCTCATATTGGAAGT
	TTGACGGAAGGGCACCACCAG
	GCACCACCACCCACGGAATCG

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Supplementary Table S2: qRT-PCR results (Ct values)

Gene	normoxia	hypoxia
18S rRNA	9.9	10.6
SePP	20.8	22.2
GPX1	24.3	24.4
CA9	32.2	20.8
PSTK	29.1	31.5*
SEPSECS	34.6	35.3*
PGK1	26.9	24.2
GPX4	21.3	19.4
SBP2	24.3	24.9
SEPHS2	20.9	23.7
SCLY	27.6	30.7*
TRIT1	25.2	26.3
DIO1	35.5	35.2*
DIO2	> 40	> 40
DIO3	32.6	33.9*
EFSec	27.3	27.9

* Ct values > 30 need to be interpreted with care. Control amplifications of the RNA preparations without reverse transcription yielded Ct values > 40 under the same reaction conditions indicating biological relevance of the data provided.

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Supplementary Figure SF1:

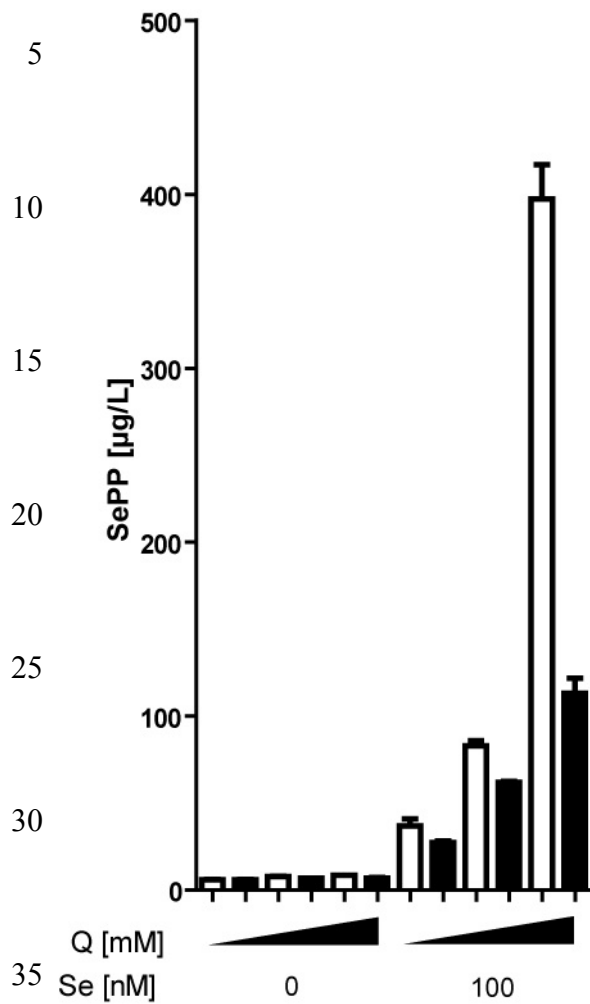


Fig. SF1: Effects of glutamine (Q) on SePP expression.

HepG2 cells were cultivated and incubated under normoxic (open bars) and hypoxic (black bars) conditions in Dulbecco's MEM with 3.7 g/l NaHCO₃ and 4.5 g/l Glc as described in Fig. 1. Sodium selenite (Se) was supplemented (left) or not (right) during the incubations. Increasing amounts of glutamine (Q; 0, 0.2 and 2.0 mM f.c.) were added before applying normoxia or hypoxia. SePP concentrations in the medium were determined as described. Supplemental glutamine increased SePP expression in the presence of supplemental Se much stronger under normoxic than under hypoxic conditions. (mean + SEM, n=4).