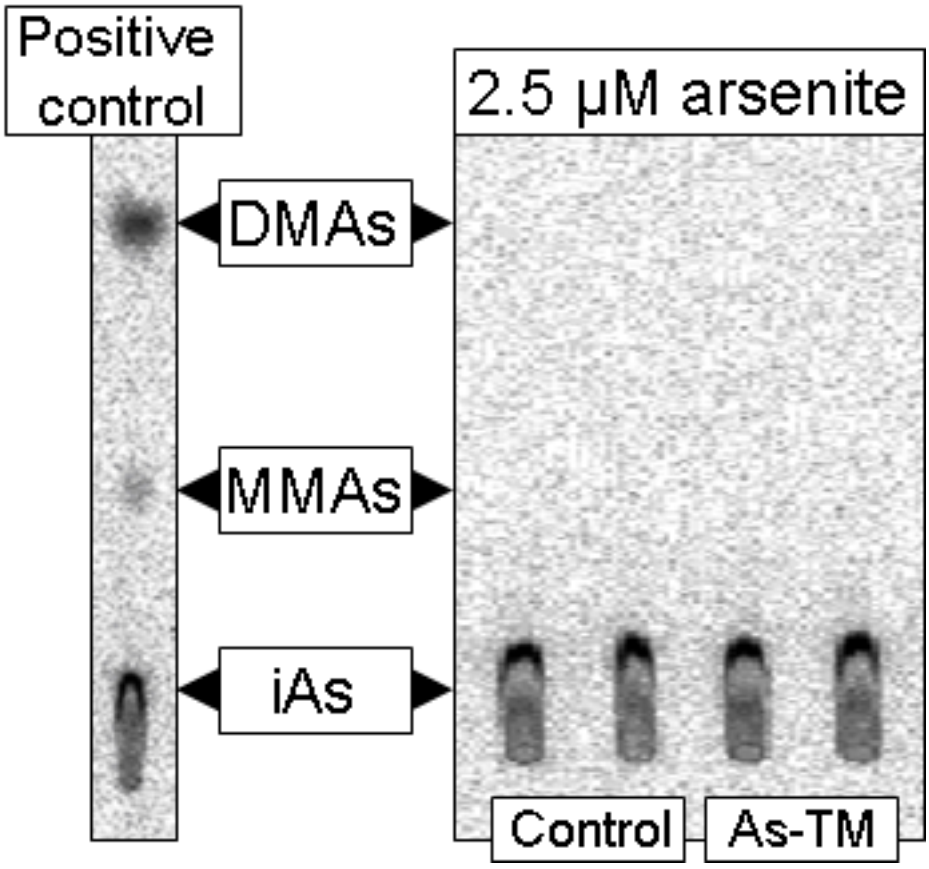

Fig. S1. **TLC Analysis of Radiolabeled Arsenic Metabolites.** iAs, inorganic arsenic; MAs, monomethylated arsenic; DMAs, dimethylated arsenic. After cells were incubated with ^{73}As-Arsenite for 24 hours, cells and medium were pooled, treated with 2M CuCl (pH 1), and boiled for 5 minutes. Supernatants were oxidized with 10% H_2O_2 and separated by ion-exchange TLC on PEI-F cellulose with an acetone-acetic acid-water (2:1:1) mobile phase. Radioactivity distribution was analyzed by a phosphorimager. UROtsa (human bladder cells) expressing rat As-methyltransferase (Cyt19) was used as positive controls.

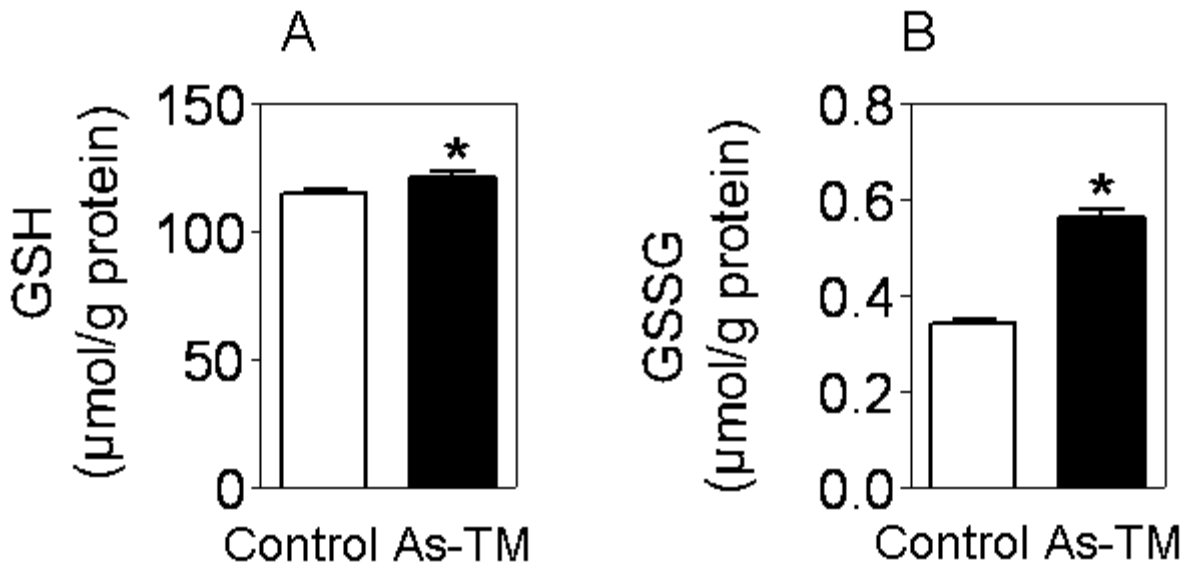

Fig. S2. Intracellular GSH (A) and GSSG (B) in As-TM and control cells. n = 6; *, $p < 0.05$ compared with control cells. Levels of GSH and GSSG in cells were measured immediately after collection using BIOXYTECH GSH/GSSG-412 kit (OxisResearch, Portland, OR). Briefly, As-TM and control cells cultured in arsenic-free medium for 1 week were rinsed three times with cold PBS and sonicated in cold PBS with 1% SDS, followed by an immediate centrifugation at 12,000 × *g* for 5 min. The resulting supernatants were used for measurement of GSSG and total glutathione (GSH+GSSG), respectively. Samples for GSSG measurement were immediately mixed with thiol-scavenging reagent M2VP (1-methyl-2-vinyl-pyridium trifluoromethane sulfonate) after separation.

Table S1 Primer sequences for real-time RT-PCR

Gene name	Gene bank number	Sequence
Keratin-1	NM_006121	GACCACCACCCACATGACATT (forward); TCCACACCCTGGGTCTAACTG (reverse)
Keratin-10	M19156	CGAGTCTTCATCTAAGGGACCAA (forward); GAGACTCTCTCCTCTTGATGCAGTT (reverse)
Involucrin	M13903	ACTTATTTCGGGTCCGCTAGGT (forward); CCCTCACCCCATTAAAGAGACA (reverse)
Loricrin	M63394	GGCACCGATGGGCTTAGAG (forward); GCTCAATGGCTTCTTCCAGGTA (reverse)
CK2α	M55265	CAGTGAAAATCAGCACCTTGTCA (forward); GGTGGTCATATCGCAGCAGTT (reverse)
CK2α'	M55268	TCCCCGAGCCCCTCAA (forward); TTAGCGTGGTTTGCTGGAAA (reverse)
CK2β	M30448	TGGTTTCCCTCACATGCTCTT (forward); ACAAACTGGTTGGCAGGTCTCT (reverse)
Nrf2	NM_006164	AACCAGTGGATCTGCCAACTACTC (forward); CTGCGCCAAAAGCTGCAT (reverse)
GCLC	NM_001498	GATGCTGTCTTGCAGGGAATG (forward); AGCGAGCTCCGTGCTGTT (reverse)
NQO1	NM_000903	ACTGCCCTCTTGTGGTGCAT (forward); GCTCGGTCCAATCCCTTCAT (reverse)
HO-1	NM_002133	GCCTGGAAGACACCCTAATGTG (forward); GGCCGTGTCAACAAGGATACTT (reverse)
β-actin	X00351	ACTGGAACGGTGAAGGTGACA (forward); ATGGCAAGGGACTTCCTGTAAC (reverse)