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New genes involved in chromate resistance in Ralstonia metallidurans strain CH34

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During preparation of the Ph.D. thesis of Susanne Juhnke, we discovered that we accidentally compressed the data sets (Tables 1 and 3) for the genes *chrF*$_2$ and *chrR* into one data set, which was assigned to *chrF*$_2$. The corrected versions of Tables 1 and 3 are given below. *chrR* is a new gene not present in the genome annotation of *Ralstonia metallidurans*. It is located upstream of *chrB*$_2$ on the opposite DNA strand of the chromosome of this bacterium. A revised version of Table W2 of the Electronic Supplementary Material is also available.

Table 1 Minimal inhibitory concentrations. Cells of *Ralstonia metallidurans* strain AE126(pMOL28) and its plasmid-free derivate strain AE104 were cultivated on solidified Tris-buffered mineral salts medium containing either 3 mM sodium sulfate or 30 μM sulfate and various concentrations of potassium chromate. Growth was analyzed after 3 days at 30 °C. Each determination was done at least three times with identical results

Bacterial strain	Relevant genotype	MIC values (μM of chromate)	
		3 mM Sulfate	30 μM Sulfate
AE126	pMOL28	350	40
	Δ*chrB*$_1$	350	40
	Δ*rpoH*	350	40
	Δ*chrC*	300	35
	Δ*chrI*	300	35
AE104	Plasmid-free	150	20
	Δ*chrF*$_2$	125	20
	Δ*chrR*	175	20
	Δ*chrB*$_2$	70	10
	Δ*chrA*$_2$	70	10

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Table 3 Activity of *chr* promoters in mutant strains of *R. metallidurans*. Cells were grown in Tris-buffered mineral salts medium containing either 3 mM or 30 μM sulfate and 2 g sodium gluconate/l with shaking at 30 °C and the basal level of β-galactosidase activity from a *chrAp*$_1$*::lacZ* or a *chrBp*$_1$*::lacZ* fusion was determined. Half of the culture was induced with 50 μM chromate (3 mM sulfate) or 20 μM chromate (30 μM sulfate) and incubation was continued with shaking for 3 h at 30 °C. The chromate concentrations used were the optimum inducer concentration at the respective sulfate concentration (Fig. 3). β-Galactosidase activity was determined in the uninduced control and divided by the basal level expression leading to IR_{unind}. Similarly, β-galactosidase activity was determined in the induced cells and also divided by the basal level expression leading to IR_{ind}. The induction ratio IR_{ind} was divided by the control ratio IR_{unind}. All points were done in triplicate in each experiment. Moreover, each experiment was done at least three times independently, and the standard deviations of these three experiments are shown. *nd* Not determined. Table W2 of the electronic supplementary material has an extended version of this table that contains the IR_{ind}, the IR_{unind} and the basal level expression data

Promoter	Genetic background	IR_{ind}/IR_{unind} 50 μM CrO_4^{2-} 3 mM SO_4^{2-}	IR_{ind}/IR_{unind} 20 μM CrO_4^{2-} 30 μM SO_4^{2-}
chrAp	pMOL28	0.91	n. d.
	Δ*chrB*$_1$	0.91	n. d.
	Δ*chrI*	0.93	n. d.
	No pMOL28	1.04	n. d.
chrBp	pMOL28	4.88	1.90
	Δ*chrB*$_1$	4.46	3.24
	Δ*chrI*	4.32	5.52
	Δ*chrC*	10.4	1.83
	Δ*rpoH*	15.1	9.42
	No pMOL28	2.20	1.77
	Δ*chrB*$_2$	1.02	1.03
	Δ*chrF*$_2$	2.50	1.70
	Δ*chrR*	10.5	3.84