CHARACTERIZATION OF THE *SINORHIZOBIUM MELILOTI* MANGANESE UPTAKE REGULATOR PROTEIN, A MEMBER OF THE FUR PROTEIN FAMILY.

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In members of the ?-proteobacteria, Fur (ferric uptake regulator) is involved in iron homeostasis. The iron-loaded Fur protein binds to conserved sequences (FUR-boxes) present in the promoter region of its target genes repressing the initiation of transcription. A close homologue of Fur has been identified in the a-proteobacteria *Sinorhizobium meliloti* but this Fur-like protein is not involved in the global regulation of iron uptake. This protein mediates the Mn^{2+} dependent regulation of the manganese transporter operon *mntABDC* and thus it was renamed Mur (manganese uptake regulator). In the present work we aimed to characterize the binding properties of the Mur protein to its target DNA. With this purpose we overexpressed and purified recombinant Mur protein and we characterized its DNA binding capacity by EMSA and DNAseI footprinting assays. Results obtained indicate that: **Mur binds to the *mntA* promoter**; **Mur binding is enhanced by manganese**; **The Mur binding site contains a palindromic sequence with high similarity to the classical "Fur-box"**. Currently, structural properties of Mur and the Mur-DNA complex are under investigation.

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