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A putative porin gene of *Burkholderia* sp. NK8 involved in chemotaxis toward β -ketoadipate

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Burkholderia sp. NK8 can utilize 3-chlorobenzoate (3CB) as a sole source of carbon because it has a megaplasmid (pNK8) that carries the gene cluster (tfdT-CDEF) encoding chlorocatechol-degrading enzymes. The expression of tfdT-CDEF is induced by 3CB. In this study, we found that NK8 cells were attracted to 3CB and its degradation products, 3- and 4-chlorocatechol, and β -ketoadipate. Capillary assays revealed that a pNK8-eliminated strain (NK82) was defective in chemotaxis toward β -ketoadipate. The introduction of a plasmid carrying a putative outer membrane porin gene, which we name ompNK8, into strain NK82 restored chemotaxis toward β -ketoadipate. RT-PCR analyses demonstrated that the transcription of the ompNK8 gene was enhanced in the presence of 3CB.

A putative porin gene, ompNK8 of *Burkholderia* sp. NK8 was required chemotaxis toward β -ketoadipate, and was induced by the presence of 3-chlorobenzoate in growth medium.