

Supporting Information

Microbial rhodopsins of *Halorubrum* species isolated from
Ejinoor salt lake in Inner Mongolia of China

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Table SA1. Source organism and accession number of genes encoding microbial rhodopsins.

Source organism	BR family	HR family	SRI	SRII family
<i>Halobacterium salinarum</i>	M11720	2JAFA	X51682	U62676
<i>Haloarcula marismortui</i>	Q5UXY6 Q5V0R5	Q5V1N0	Q5UXM9	Q5V5V3
<i>Haloarcula vallismortis</i>	BAA06680	D31881	D83748	Z35308
<i>Haloarcula japonica</i>	BAA81816	WP_004591497*	EMA2997	ND
<i>Haloquadratum walsbyi</i>	Q18DH8 Q18DH5	CAJ53165*	ND	ND
<i>Natronomonas pharaonis</i>	ND	P15647	ND	Z35086
<i>Halorubrum chaoviator</i>	P69051	ND	(P)	BAB86796*
<i>Halorubrum</i> sp aus 2	P29563	ND	ND	ND
<i>Halorubrum sodomense</i>	P96787	O93742*	O93743*	ND
<i>Halorubrum xinjiangense</i>	AAS15567	ND	ND	ND
<i>Halobacterium halobium</i> XZ515	AF306937	ND	ND	ND

ND: not determined, (p): partial sequence, *: the physiological properties of the protein was not reported.

Table SA2. Primers for in RT-PCR of microbial rhodopsin and transducer protein genes

	Forward primer	Reverse primer
<i>Halorubrum</i> sp. ejinoor		
<i>HeBR</i>	5' AGACGCTCTGGTTGGGTATAGG 3'	5' TACTCGCGAGCCTCCTTGTC 3'
<i>HeHR</i>	5' GAAATGACGCAGACGGAGATG 3'	5' GTCCGTCCCATGTAGACGAA 3'
<i>HeSRII</i>	5' AACATCACCGTGGTGCTGTG 3'	5' TTCGAGACGATGTCGAGGTAGAC 3'
<i>HeHtrII</i>	5' AAGTCGGCGAGCGAGATCG 3'	5' CGGCGGAGATCCGCTGTTC 3'

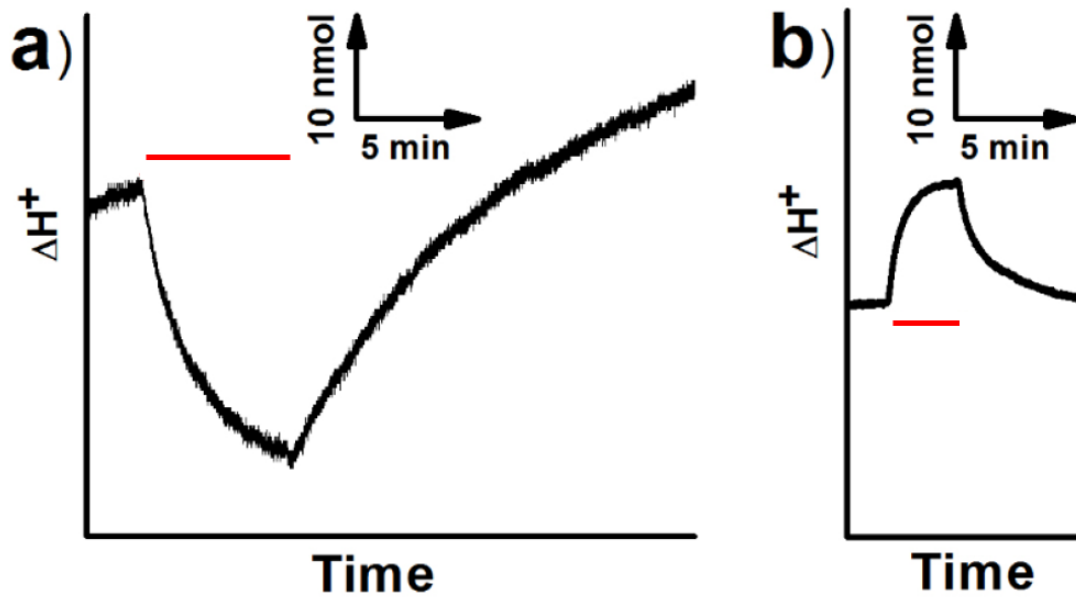


Figure SA1. Measurements of pump activity of the native cell of *He* at 20 °C. The red bar indicates the period of illumination by orange light (590 nm \pm 8.5 nm). The native cells were suspended in unbuffered 3 M NaCl solution (a) and in 3M NaNO₃ (b), respectively.