

Table 10.1 K_m and k_{cat} values of psychrophilic (P) and mesophilic (M) enzymes

Enzyme/organism	T (°C)	K_m	k_{cat} (s^{-1})	Reference
Alpha-amylase				D'Amico et al. (2001)
P: <i>Pseudoalteromonas haloplanktis</i>	25	234 μ M	294 (10 °C)	
M: Pig pancreatic	25	65 μ M	97	
Cellulase				Garsoux et al. (2004)
P: <i>P. haloplanktis</i>	4	600 μ M	0.18	
M: <i>Erwinia chrysanthemi</i>	4	200 μ M	0.01	
DNA ligase				Georlette et al. (2000)
P: <i>P. haloplanktis</i>	18	0.30 μ M	0.034	
M: <i>Escherichia coli</i>	18	0.18 μ M	0.004	
Endonuclease I				Altermark et al. (2007)
P: <i>Vibrio salmonicida</i>	0.5	246 mM	9.41	
M: <i>Vibrio cholerae</i>	0.5	118 mM	1.03	
Isocitrate dehydrogenase				Watanabe et al. (2005)
P: <i>Colwellia maris</i>	15	62 mM	70.8	
M: <i>E. coli</i>	15	3.3 mM	22.0	
Lactate dehydrogenase				Coquelle et al. (2007)
P: <i>Champscephalus gunnari</i>	0	0.16 mM	230	
M: <i>Squalus acanthias</i>	0	~0.3 mM	72	
Ornithine transcarbamylase				Xu et al. (2003b)
P: <i>Moritella abyssi</i>	30	45 mM	690	
M: <i>Saccharomyces cerevisiae</i>	30	0.9 mM	235	
Subtilisin				Narinx et al. (1997)
P: <i>Bacillus</i> sp. (Antarctic)	5	26 μ M	32	
M: Subtilisin Carlsberg	5	6 μ M	18	

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