Citation: Singh V, Singh MP, Verma V, Singh P, Srivastava R, et al. (2016) Characteristics of Cold Adapted Enzyme and Its Comparison with Mesophilic and Thermophilic Counterpart. Cell Mol Biol 62: 144.

S.N.	Protein	Psychrophilic Organism (°C)	Mesophilic Organism (°C)	Thermophilic Organism (°C)	References
1.	t-RNA modif cation GTPase (TrmE)	12-15	37	70	[4]
2.	DNA ligase	4	30	45	[27]
3.	-Amylase	4	20-30	72	[10,26]
4.	Lactate dehydrogenase	3-8	25-30	91	[12,13]
5.	Ornithine transcarbamylase	5	37	55	[31]
6.	Glucose 6-phasphate dehydrogenase	5	45-50	92	[28]
7.	Aspartate aminotransferase	7	35	60-85	[29, 30]
8.	Glutamate dehydrogenase	14	40	60	[8]
9.	Phosphoglycerate kinase	25	40	76	[15]
10.	Alkaline phosphatase	25	35	65	[9,11,14]

Table 1: Optimum activity for enzyme homolog.

S.N.	Protein	Psychrophilic Organism (Κ <sub>m</sub> , μΜ)	Mesophilic Organism (Κ <sub>m</sub> , μΜ)	Thermophilic Organism (Κ <sub>m</sub> , μΜ)	References
1.	t-RNA modif cation GTPase (TrmE)	888.2	378.0	833.0	[4]
2.	DNA ligase	0.165	0.702	0.236	[27]
3.	-Amylase	234	223	260	[10,26]
4.	Lactate Dehydrogenase	200	400	0.000027	[12,13]
5.	Ornithine transcarbamylase	1780	2400	100	[31]
6.	Glucose 6-phasphate dehydrogenase	20	19.4	110	[28]
7.	Aspartate aminotransferase	5820	21040	5000	[29,30]
8.	Glutamate dehydrogenase	2000	1390	1930	[8]
9.	Phosphoglycerate Kinase	370	800	1900	[15]
10.	Alkaline phosphatase	1020	2500	3040	[9,11,14]

**Table 2:** Comparison of  $K_m$  value for psychrophilic, mesophilic and thermophilic enzymes.

C 111 1.19

1. Κ K K 10 L, , 1 1. 2. Κ NA /4,11,14,19 L. 141 K 25-·1/h 12-1-1 '´´ā¯́``\| |a<sup>.25-</sup> '| |a|´`'\| |a//№. a٦ ۱. a a٦ 1 1 Y + 1 2

## C, ,' 1 .

۱. . L ٩, 1 1 1 1 (C, .), - · · · · · · · · · · · /1 1 1 × 1 × 1 × 1 × 1 × 1 × 1 **~**|•´ 21 2.1 L

, G EL, D K G E ) /'17-19 Escherichia coli /20-22 . M 724,22 . 724,22 . 6 photo (G EL) cpn10 (G E) A . G E) A . G Escherichia coli G E) A . 4 C (10 C), 10 C), 10

## C, \*.,

(0 C 1 2 . 1 . 21 ໍ່ b<sup>1</sup>ໍ່ ພື້ L. 21 1.01 -111~ 02 \* · 1''-1 21\*1 1 ۱. 2 1 -1 411 2 2 21 1.0

## Acknowledgement

Author AKS would also like to acknowledge the fnancial support from SERB

Citation: