

Enzyme Data

BCC-Nr.	029																																																	
Enzyme	Esterase																																																	
EC-No.	3.1.1.1																																																	
T_{opt}	70°C, recommended 50-90°C																																																	
pH_{opt}	6.5, recommended 5-8																																																	
Stability	t_{1/2} (90°C) = 21 h																																																	
Activity and substrate specificity	<p>- spec. activity 33 U/mg (pNP-butyrate)</p> <p>- hydrolyzes pNP esters of Ibuprofen, Naproxen and Ketoprofen, 2-phenylpropanoate, 3-phenylbutanoate and cyclohexanoate</p> <p>- max. chain length C8</p>																																																	
Additives	<table border="1"><thead><tr><th>Compound</th><th>Conc. (%)</th><th>Rel. activity (%)</th></tr></thead><tbody><tr><td>None</td><td>–</td><td>100</td></tr><tr><td rowspan="2">Acetone</td><td>50 (v/v)</td><td>82</td></tr><tr><td>90 (v/v)</td><td>0</td></tr><tr><td rowspan="2">Dimethylformamide</td><td>50 (v/v)</td><td>72</td></tr><tr><td>90 (v/v)</td><td>165</td></tr><tr><td rowspan="2">DMSO</td><td>50 (v/v)</td><td>77</td></tr><tr><td>90 (v/v)</td><td>0</td></tr><tr><td rowspan="2">Ethanol</td><td>50 (v/v)</td><td>77</td></tr><tr><td>90 (v/v)</td><td>0</td></tr><tr><td rowspan="2">Isopropanol</td><td>50 (v/v)</td><td>63</td></tr><tr><td>90 (v/v)</td><td>53</td></tr><tr><td rowspan="2">Methanol</td><td>50 (v/v)</td><td>78</td></tr><tr><td>90 (v/v)</td><td>27</td></tr><tr><td rowspan="2">Pyridine</td><td>50 (v/v)</td><td>6</td></tr><tr><td>90 (v/v)</td><td>0</td></tr><tr><td rowspan="2">Tert. butanol</td><td>50 (v/v)</td><td>71</td></tr><tr><td>90 (v/v)</td><td>113</td></tr><tr><td>Amyl alcohol</td><td>90 (v/v)</td><td>0</td></tr></tbody></table>	Compound	Conc. (%)	Rel. activity (%)	None	–	100	Acetone	50 (v/v)	82	90 (v/v)	0	Dimethylformamide	50 (v/v)	72	90 (v/v)	165	DMSO	50 (v/v)	77	90 (v/v)	0	Ethanol	50 (v/v)	77	90 (v/v)	0	Isopropanol	50 (v/v)	63	90 (v/v)	53	Methanol	50 (v/v)	78	90 (v/v)	27	Pyridine	50 (v/v)	6	90 (v/v)	0	Tert. butanol	50 (v/v)	71	90 (v/v)	113	Amyl alcohol	90 (v/v)	0
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Benzol	90 (v/v)	43
Chloroform	90 (v/v)	33
Formaldehyde	90 (v/v)	0
Heptane	90 (v/v)	0
Hexadecane	90 (v/v)	61
Isooctane	90 (v/v)	0
n-Decyl alcohol	90 (v/v)	0
n-Hexane	90 (v/v)	43
Toluol	90 (v/v)	199

Compound	Concentration	Rel. activity (%)
None	–	100
Al ³⁺	10 mM	100
Ca ²⁺	10 mM	104
Co ²⁺	10 mM	75
Cr ³⁺	10 mM	60
Cu ²⁺	10 mM	42
Fe ³⁺	10 mM	20
K ⁺	10 mM	95
Mg ²⁺	10 mM	114
Mn ²⁺	10 mM	104
Na ⁺	10 mM	101
Ni ²⁺	10 mM	71
CHAPS	10% (w/v)	73
SDS	10% (w/v)	29
Triton-X100	10% (v/v)	31
Tween20	10% (v/v)	42
Tween80	10% (v/v)	38
2-Iodoacetate	10 mM	27
DTT	10 mM	7
EDTA	10 mM	79
Guanidine-HCl	10 mM	53
PCMB	10 mM	35
Pefabloc	10 mM	55
PMSF	10 mM	48
β-Mercaptoethanol	10 mM	0
Urea	1 M	103
	3 M	95
	5 M	91