

Enzyme Data

BCC-Nr.	035																																																	
Enzyme	Esterase																																																	
EC-No.	3.1.1.1																																																	
T_{opt}	55°C, recommended 30-70°C																																																	
pH_{opt}	7, recommended 6.5-8.5																																																	
Stability	t_{1/2} (90°C) = 21 h																																																	
Activity and substrate specificity	<p>- spec. activity 2639 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 C6</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>98</td></tr><tr><td>90 (v/v)</td><td>84</td></tr><tr><td rowspan="2">Dimethylformamide</td><td>50 (v/v)</td><td>82</td></tr><tr><td>90 (v/v)</td><td>64</td></tr><tr><td rowspan="2">DMSO</td><td>50 (v/v)</td><td>95</td></tr><tr><td>90 (v/v)</td><td>75</td></tr><tr><td rowspan="2">Ethanol</td><td>50 (v/v)</td><td>99</td></tr><tr><td>90 (v/v)</td><td>91</td></tr><tr><td rowspan="2">Isopropanol</td><td>50 (v/v)</td><td>95</td></tr><tr><td>90 (v/v)</td><td>78</td></tr><tr><td rowspan="2">Methanol</td><td>50 (v/v)</td><td>98</td></tr><tr><td>90 (v/v)</td><td>89</td></tr><tr><td rowspan="2">Pyridine</td><td>50 (v/v)</td><td>71</td></tr><tr><td>90 (v/v)</td><td>50</td></tr><tr><td rowspan="2">Tert. butanol</td><td>50 (v/v)</td><td>53</td></tr><tr><td>90 (v/v)</td><td>37</td></tr><tr><td>Amyl alcohol</td><td>90 (v/v)</td><td>7</td></tr></tbody></table>	Compound	Conc. (%)	Rel. activity (%)	None	–	100	Acetone	50 (v/v)	98	90 (v/v)	84	Dimethylformamide	50 (v/v)	82	90 (v/v)	64	DMSO	50 (v/v)	95	90 (v/v)	75	Ethanol	50 (v/v)	99	90 (v/v)	91	Isopropanol	50 (v/v)	95	90 (v/v)	78	Methanol	50 (v/v)	98	90 (v/v)	89	Pyridine	50 (v/v)	71	90 (v/v)	50	Tert. butanol	50 (v/v)	53	90 (v/v)	37	Amyl alcohol	90 (v/v)	7
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Benzol	90 (v/v)	7
Chloroform	90 (v/v)	16
Formaldehyde	90 (v/v)	10
Heptane	90 (v/v)	21
Hexadecane	90 (v/v)	17
Isooctane	90 (v/v)	4
n-Decyl alcohol	90 (v/v)	3
n-Hexane	90 (v/v)	23
Toluol	90 (v/v)	15

Compound	Concentration	Rel. activity (%)
None	–	100
Al ³⁺	10 mM	88
Ca ²⁺	10 mM	104
Co ²⁺	10 mM	82
Cr ³⁺	10 mM	85
Cu ²⁺	10 mM	71
Fe ³⁺	10 mM	64
K ⁺	10 mM	108
Mg ²⁺	10 mM	110
Mn ²⁺	10 mM	110
Na ⁺	10 mM	99
Ni ²⁺	10 mM	69
CHAPS	10% (w/v)	104
SDS	10% (w/v)	29
Triton-X100	10% (v/v)	44
Tween20	10% (v/v)	50
Tween80	10% (v/v)	40
2-Iodoacetate	10 mM	30
DTT	10 mM	13
EDTA	10 mM	93
Guanidine-HCl	10 mM	70
PCMB	10 mM	24
Pefabloc	10 mM	66
PMSF	10 mM	42
β-Mercaptoethanol	10 mM	7
Urea	1 M	99
	3 M	98
	5 M	94