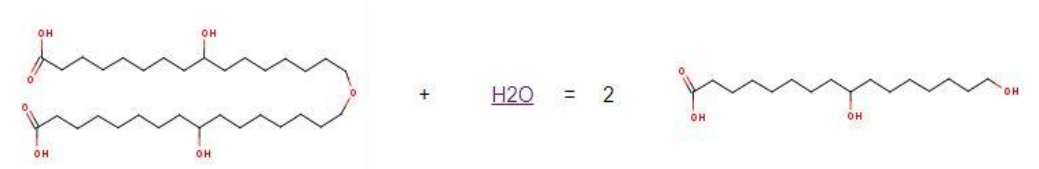
Cutinase Fs

E.C. 3.1.1.74

Description: Enzyme preparation for the hydrolysis of cutin and other esters. Cutin (polyester of hydroxy and hydroxy-epoxy fatty acid) is cleaved into the corresponding monomers.

Catalysed reaction:



Cutin + *H_2O* → *2 Cutin Monomere*

Origin: *Fusarium solani,* expressed in *Arxula adeninivorans*

Application: Splitting of cutin, organis synthesis (see table 1)

Activity: > 30 000 U/ g
(Method: pH 7.0; 37°C, substrate: Glycerinetributyrate))

Specific activity: > 3 000 U/ mg Protein

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Parameter:	pH	Optimum: 6 - 9
		effective in the range of pH 5 - 10
	Temperature	Optimum: 25 - 50°C
		effective in the range of 20 – 60°C

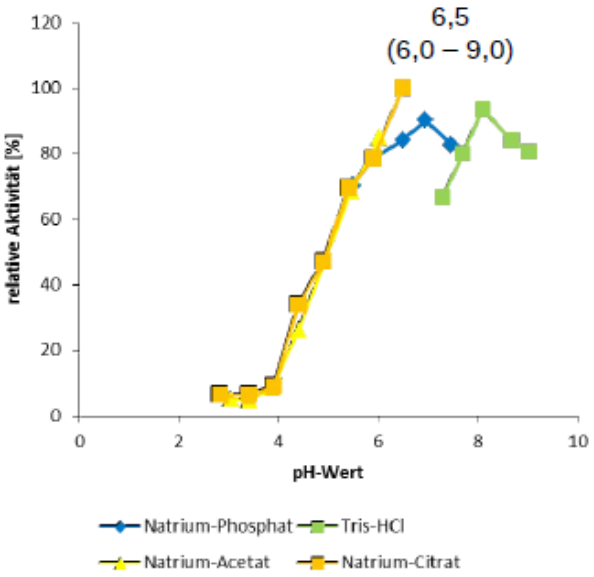

Image 1: pH-spectrum

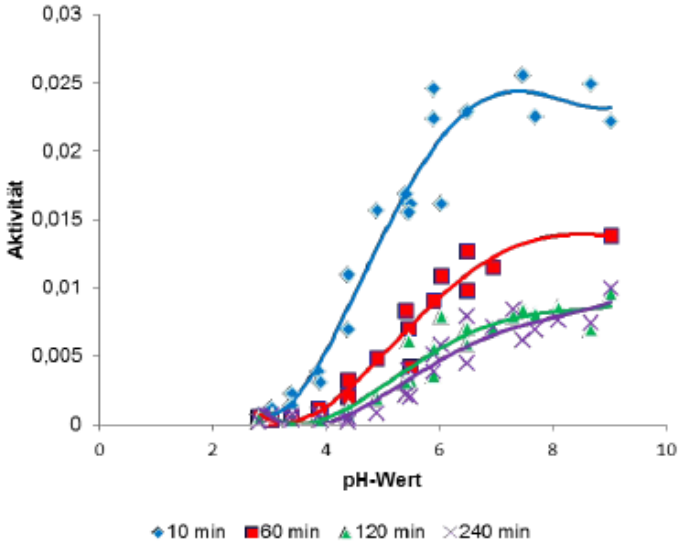

Image 2: pH-stability

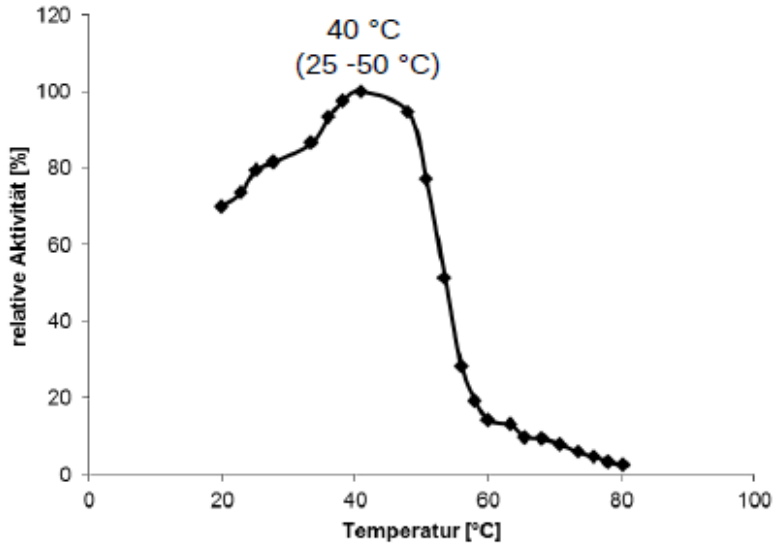

Image 3: Temperature-spectrum

Article-no.: 2460

Form of delivery: Partially purified lyophilizate

Stability: Stable at -20°C

Storage: – 20°C

Table 1: Use of cutinases in bio catalysis

(according to Carvalho et al., 1998b)

Reaction	Substrate	Enzyme preparations/ reaction	Reference.
Hydrolysis	triolein	Reverse Micelles AOT/ isooctane	Melo et al., 1995b
		triolein/ water	Flipsen et al., 1996
	tricaprylin	Immobilization on zeolites	Gonçalves et al., 1996a
		Calcium alginate	Gonçalves et al., 1995
		Covalent bonding on porous silicate	Gonçalves et al., 1996b
	p-nitrophenyl valerate	Micelles with SDS/ Triton X100	Pocalyko and Tallman, 1998
	p-nitrophenyl palmitate	Immobilization on dextran and silica-derivatives	Gonçalves et al., 1998a
	Methyl-,ethyl-, Propyl propionate	Gas/ solid phase system	Lamare et al., 1997
Ester synthesis	oleic acid +hexanol	Reverse micelles AOT/ isooctane	Sebastiãoet al., 1993, Sebas tião et al., 1992
	caprylic acid + butanol	Organic solvents	Sarazin et al., 1992, Sarazin et al., 1995
	caprylic acid + butanol	Organic solvents	Sarazin et al., 1992, Sarazin et al., 1995
	butanoic acid + 2-butanol	Phosphatidylcholine/ isooctane, reverse micelles	Pinto-Sousa et al., 1994
	oleic acid + glycerin	Organic solvents	Melo et al., 1995a
	hexanoic acid + hexanol	CTAB, Reverse micelles	Cunnah et al., 1996
		Immobilization on Accurel EP 100	Sereti et al., 1997
	butanoic acid + hexanol	Immobilization on Accurel EP 100	Sjursnes et al., 1998
	lauric acid + pentanol	Reverse micelles AOT/ isooctane	Papadimitriou et al.,1996

Transesterification	methyl propionate + propanol	Gas/ solid phase system	Lamare and Legoy, 1995, Lamare et al., 1997
	butyl acetate + hexanol	Reverse micelles AOT/ isooctane	Carvalho et.al 1997a, Carvalho et al., 1998a
		Reverse micelles CTAB/ isooctane	Cunnah et al., 1996
		Immobilization on zeolites	Serralha et al., 1998

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