Back to article

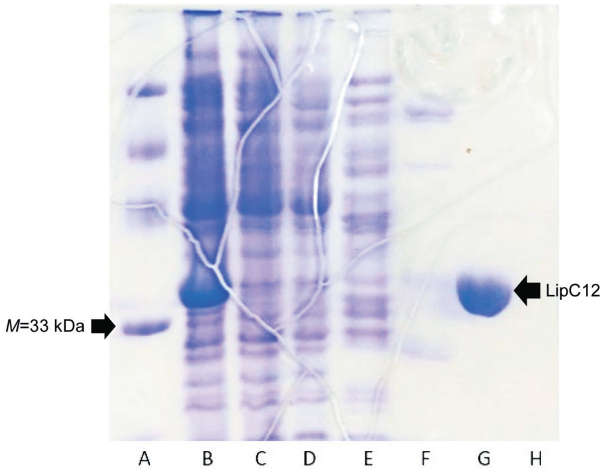

Fig. S1. Electrophoresis gel (SDS-PAGE) showing the crude extract and purified fractions of LipC12. Legend: A=molecular mass markers, LipC12=metagenomic lipase, B=crude extract, C=elution from the application of the crude extract to the column. Fractions eluted with imidazole (concentration gradient in mmol/L): D=10, E=50, F=100, G=300 and H=500

Back to article

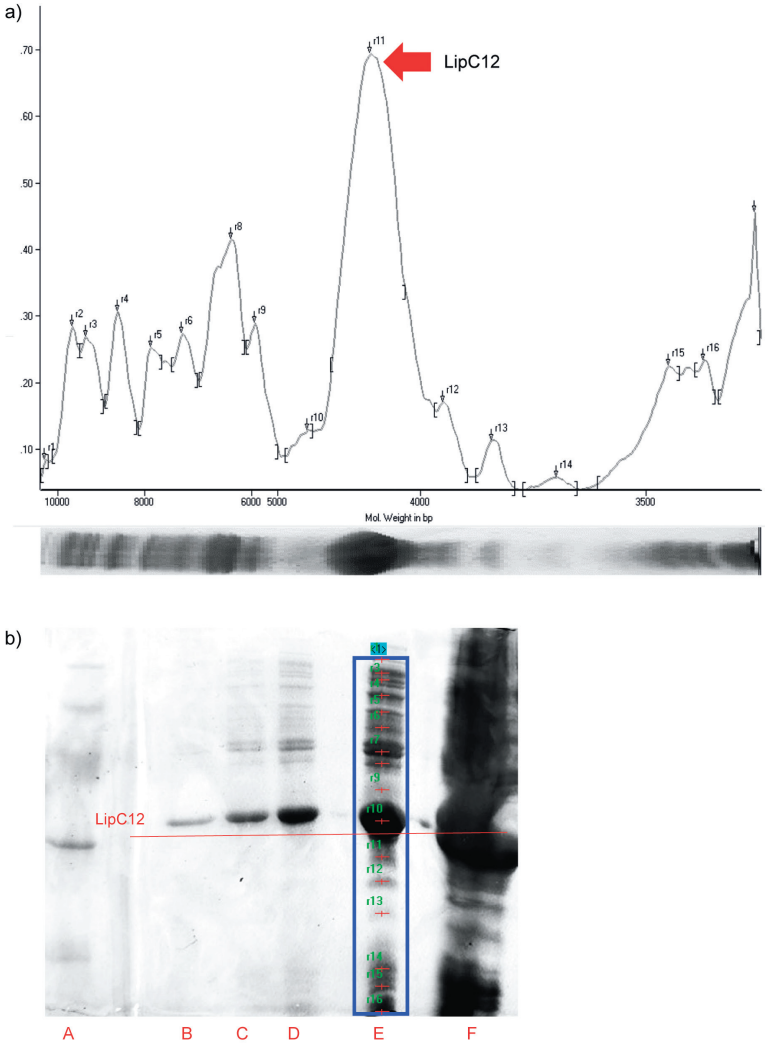

Fig. S2. Electrophoresis gel (SDS-PAGE) and densitometry analysis of the gel for LipC12: a) image densitometry containing the dilutions of the crude extract, and b) absorbance of each detected band. Legend: A=molecular mass markers and dilutions of the LipC12 crude extract: B=200×, C=100×, D=50×, E=10× and F=1×

Back to article

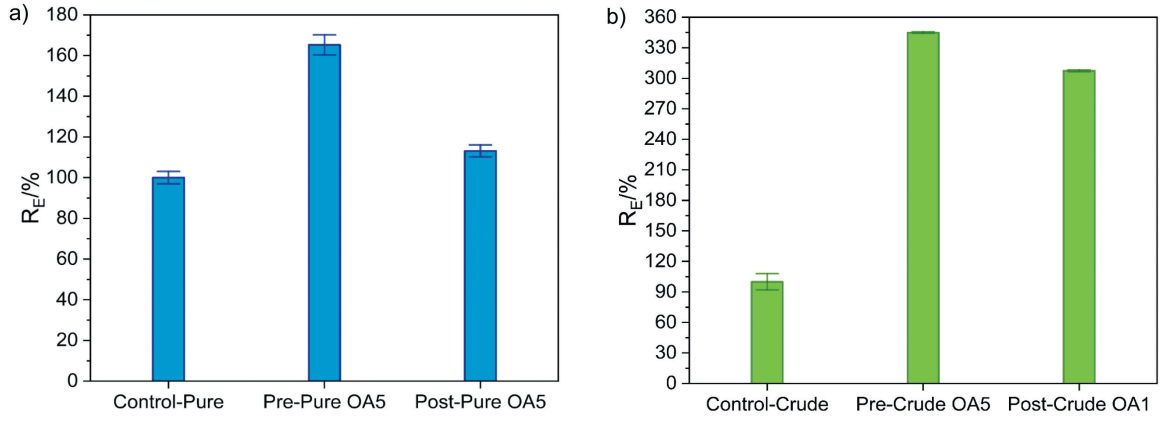

Fig. S3. Relative esterification activities (R_E) obtained with the best-performing bioimprinted LipC12 preparations: a) LipC12 immobilized from a purified solution, b) LipC12 immobilized from the cell-free crude extract. The method for determination of oleic acid esterification activity in *n*-hexane is described in section *Analytical ethods*. The error bars represent the mean value±standard deviation (*N*=3). OA1 and OA5=oleic acid, *n*=29.4 and 147 nmol, respectively

Back to article

Table S1. Activities and protein concentrations of the supernatants containing LipC12, before and after immobilization, along with immobilization efficiency (IE)

Sample/bioimprinting strategy	Activity/(U/mg)		*γ*(protein)/(mg/mL)		IE*/%	IE**/%
	Initial	Final	Initial	Final		
Pre-pure	1883	0	1.0	0	100	100
Pre-crude	1914	0	20.0	4.0	100	80
Post-pure	1780	0	1.0	0	100	100
Post-crude	1934	0	20	3.8	100	81

*IE calculated from the residual activity after the immobilization, **IE calculated from the residual protein content after the immobilization

Back to article

Table S2. Activity retention (AR) of immobilized LipC12 with different bioimprinting strategies

Bioimprinting agent	AR/%			
	Pre-pure	Pre-crude	Post-pure	Post-crude
None (control)	204	261	260	261
OA1	1348	552	520	3531
OA5	2158	2437	3154	2403
CTAB	246	547	432	228
CTAB-*t*-butanol	1141	671	705	612
CTAB-OA1	551	1429	455	708
CTAB-OA5	550	721	310	703
Methanol	2045	1904	774	2668
Ethanol	1997	1949	1593	1643
t-Butanol	648	1875	489	3167
n-Heptane	1754	2179	917	1793
Toluene	1259	2156	370	2076

OA1 and OA5=oleic acid, *n*=29.4 and 147 nmol, respectively,
CTAB=cetyltrimethylammonium bromide