Amino Acid Enantiomer Separation of Seawater Samples

ACE® Ultra-inert UHPLC & HPLC Columns

Application #AN3880

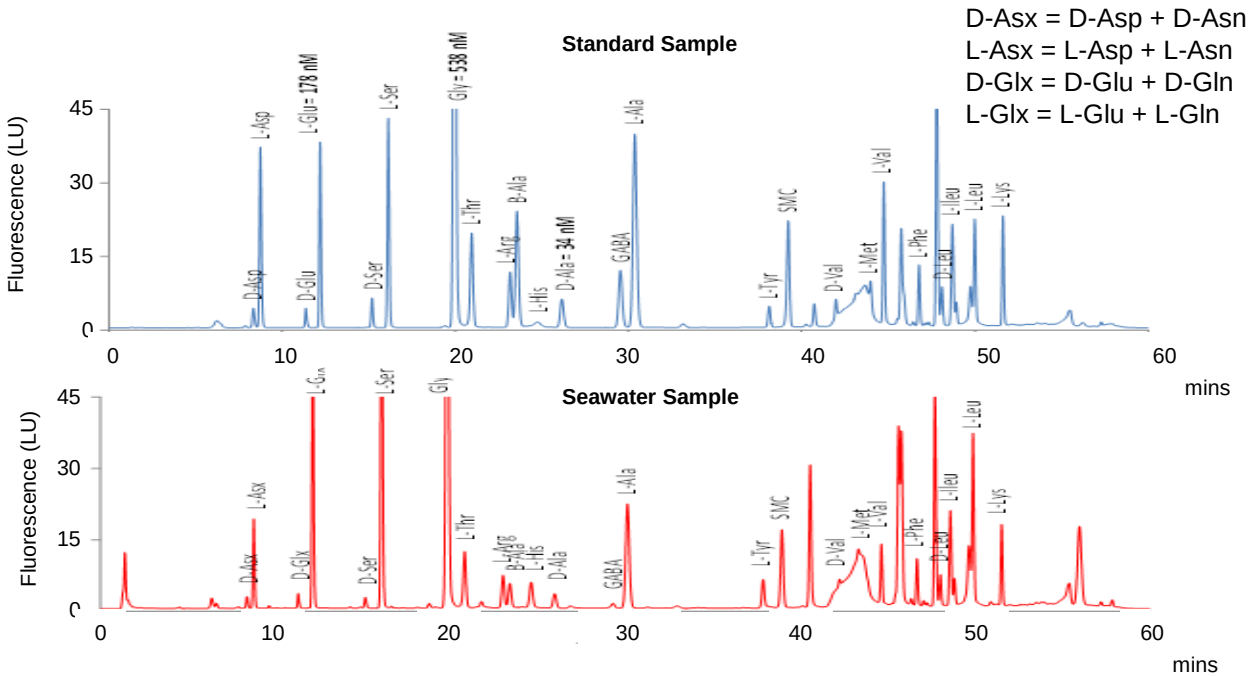
Conditions

Column:	ACE UltraCore 5 SuperC18
Dimensions:	250 x 3.0 mm
Part Number:	CORE-5A-2503U
Mobile Phase:	A: 95% 40 mM KH_2PO_4 pH 6.15 in H_2O + MeOH/MeCN (93:7 v/v)
	B: 62% MeOH/MeCN (93:7 v/v) + 38% A

Time (mins)	%B
0.0	0
13.0	27
33.0	36
38.0	58
54.0	92
55.0	100
57.5	0
60.0	0

Flow Rate:	0.7 mL/min
Temperature:	45 °C
Detection:	Fluorescence, λ_{ex} 330 nm λ_{em} 450 nm

This method enables the quantification of free, dissolved combined, particulate and total amino acid enantiomers from seawater. After hydrolysis, hydrolysates are evaporated, dissolved in borate buffer (pH 10) and centrifuged to remove flocculate. Samples are derivatised with OPA/IBDC (N-isobutyryl-D-cysteine) and SMC (S-methyl-L-cysteine) added as internal standard. Enantiomer elution order can be reversed by using IBLC (N-isobutyryl-L-cysteine)



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