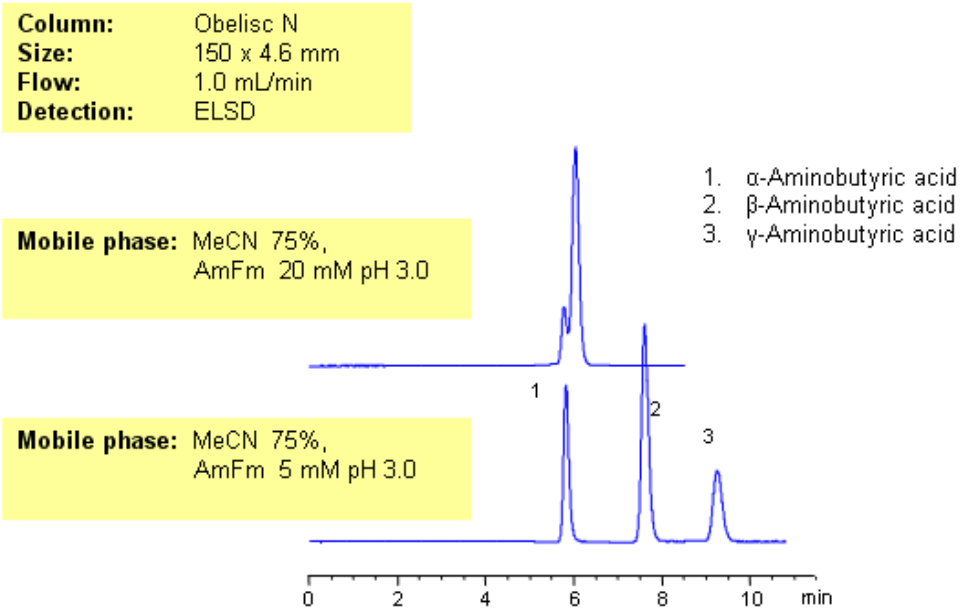
HPLC Separation of alpha-Aminobutyric, beta-Aminobutyric, and gamma-Aminobutyric acids on Obelisc N



GABA (neurotransmitter) and its isomers are polar zwitter-ionic compounds. Due to the position of amino-groups, all three compounds show different polar and basic properties. The isomers of aminobuturic acid are separated on an Obelisc N HILIC/cation-exchange column. Buffer concentration has a different effect on retention of alpha-, beta-, and gamma-aminobutyric acid. This general and robust method can be used for separation of other polar and ionizable compounds and isomers by mixed-mode chromatography.

SIELC has developed the Obelisc™ columns, which are mixed-mode and utilize Liquid Separation Cell technology (LiSC™). These cost-effective columns are the first of their kind to be commercially available and can replace multiple HPLC columns, including reversed-phase (RP), AQ-type reversed-phase, polar-embedded group RP columns, normal-phase, cation-exchange, anion-exchange, ion-exclusion, and HILIC (Hydrophilic Interaction Liquid Chromatography) columns. By controlling just three orthogonal method parameters - buffer concentration, buffer pH, and organic modifier concentration - users can adjust the column properties with pinpoint precision to separate complex mixtures.

Method Parameters

Column	Obelisc N, 4.6×150 mm, 5 µm, 100 Å
Mobile Phase	MeCN/H2O
Buffer	AmFm pH 3.0
Flow Rate	1.0 mL/min
Detection	ELSD

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