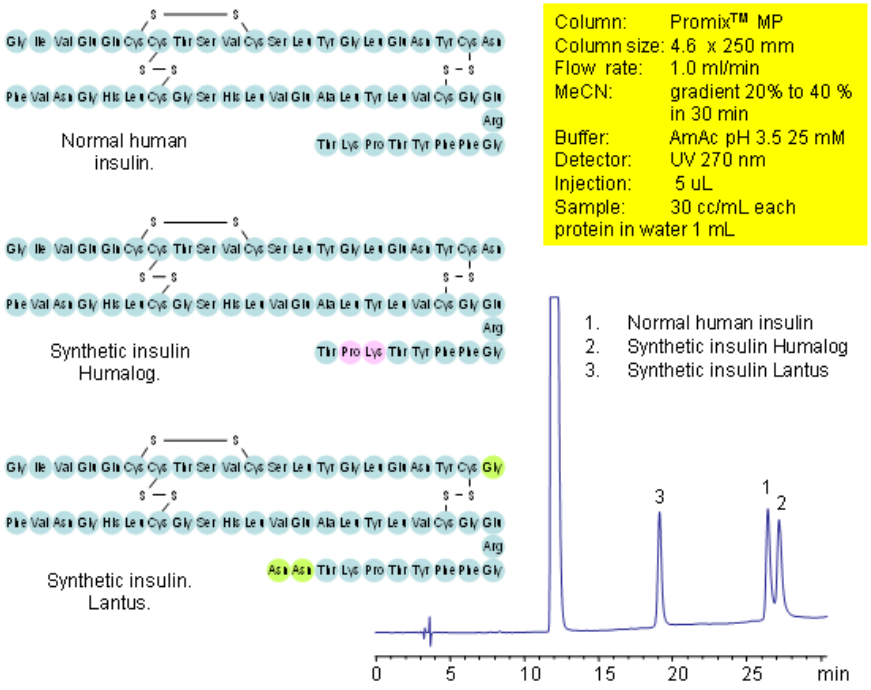
HPLC Separation of Human and Synthetic Insulins on Promix Column



Insulin is a protein that regulates carbohydrates and fat metabolism. Insulin is a peptide hormone consisting of 51 amino acids and has molecular weight of 5808 Da. Bovine insulin differs from human in only three amino acid residues, and porcine insulin in one. Difference in structures is very minimal and the insulin cannot be resolve on reversed-phase column. Mixed-mode approach allows to use small difference in hydrophobic and ionic properties and separate insulins with close structures. Normal human insulin, synthetic insulin Humalog, and synthetic insulin Lantus are separated on a Promix MP mixed-mode HPLC column with LC/MS-compatible conditions. Method does not require use of ion-pairing reagent. Method is also compatible with preparative chromatography and can be used for isolation of insulin on a large scale.

The Promix family of mixed-mode columns presents an innovative chromatography technology for the efficient resolution of peptides and proteins. This technology hinges on a unique blend of hydrophobic and ionic interactions, facilitated by a novel separation medium: a ligand bonded to a silica support, chemically combined with hydrophobic and ionic functional groups . This phase provides unparalleled selectivity and peak capacity . By independently adjusting the quantities of buffer and organic modifier, a virtually infinite number of separation conditions can be achieved, rendering it suitable for a wide array of biomolecules.

Method Parameters

Detection	UV Detection

Quelle: https://sielc.com/Application-HPLC-Separation-of-Human-and-Synthetic-Insulins-on-Promix-Column