Preconcentration and Quantitative Determination of Esomeprazole Magnesium Present in Water

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Abstract

A simple, accurate, and sensitive preconcentration method for determination of esomeprazole magnesium in treated sewage water was developed based on HPLC. A preconcentration method was developed for aqueous solution containing pure drug using solid phase extraction. Macroporous beads of polystyrene divinyl benzene (PSDVB) polymer were used for preconcentration followed by chromatographic determination. Experimental parameters were optimized. This optimized method can detect esomeprazole magnesium concentration up to 0.003 mg L^{-1} after preconcentration. This method was used for determination of esomeprazole magnesium in water collected from a sewage treatment facility. Esomeprazole magnesium could not be detected in the treated sewage water sample collected for the study.

Keywords: Esomeprazole magnesium, HPLC, Preconcentration, Solid phase extraction