

**Название публикации:**

3-(10'-Phenothiazinyl)propionic acid is a potent primary enhancer of peroxidase-induced chemiluminescence and its application in sensitive ELISA of methylglyoxal-modified low density lipoprotein

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**Сведения об издании:**

Talanta

Том: 115 Стр.: 414-417

DOI: 10.1016/j.talanta.2013.05.074

Опубликовано: OCT 15 2013

Тип документа: Article

**Аннотация:**

Using a full factorial design the optimization of experimental conditions of enhanced chemiluminescence reaction (ECR) catalyzed by horseradish peroxidase (HRP) in the presence of 3-(10'-phenothiazinyl) propionic acid (PPA) as a primary enhancer was performed. The effect of concentrations of PPA, hydrogen peroxide, MORPH, luminol, and Tris on a ratio of peroxidase-catalyzed CL to background was studied. The detection limit value of HRP in ECR with PPA was 0.09 pM. Using PPA the ultra-sensitive chemiluminescent ELISA for determination of methylglyoxal-modified low density lipoprotein was developed. The detection limit value for the developed method was 0.5 ng mL<sup>-1</sup>. The obtained results open up very promising perspectives for using PPA to improve the sensitivity of enzyme immunoassay kits. (C) 2013 Elsevier B.V. All rights reserved.

**Ключевые слова:**

3-(10'-Phenothiazinyl)-propionic acid; Chemiluminescence; Enhancement; Peroxidase; Enzyme immunoassay; Methylglyoxal-modified low density; lipoprotein