

NEW DERIVATIVES OF ARYLSULFONYLIMIDAZOLIDINE WITH POTENTIAL PHARMACOLOGICAL ACTIVITY

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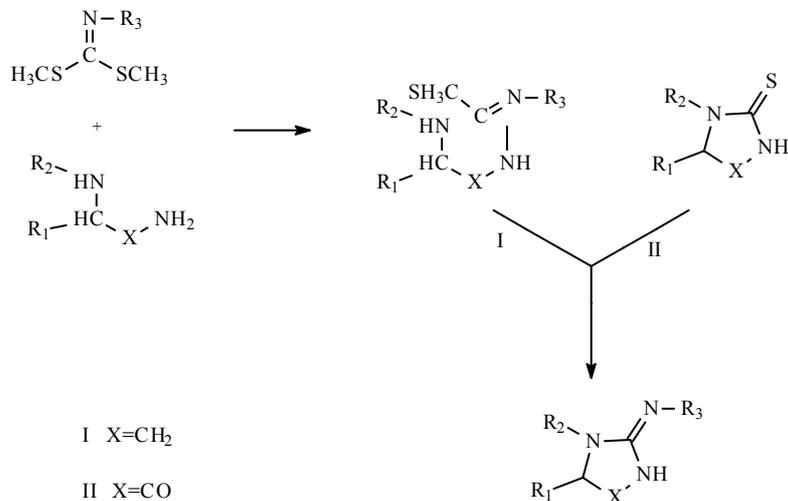
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Synthetic derivatives of imidazolidine are an important group of medicines, characterized by varied pharmacological activity. Some derivatives of arylsulfonylimidazolidine show hypoglycaemic activities [1-3].

New cyclic derivatives of 1-arylguanidine were tested for their activity as potential hypoglycaemic agents in type II diabetes. Among them TES 6, TES7 revealed stronger hypoglycaemic activity than Tolbutamide in mice with diabetes induced by single injection of Streptozocin (2000mg/kg; i.p) [].

In the synthesis of the required compounds we applied two methods according to the scheme 1.1-arylsulfonyl-2-hydrazonoimidazolidine-4-one [4,5] were obtained in the reaction of 1-arylsulfonyl-2-thioxoimidazolidine-4-ones with 50% solution of hydrazine hydrate. 1-alkyl-2-arylsulfonylimino-5-arylimidazolidines were synthesized by condensation of dimethyl N-arylsulfonyliminodithioic acid esters with respective 1-alkyl-2-arylethylene-diamines.

Scheme 1:



References

- [1] H. Dietrich, C. Lehmann, Derivatives of p-aminoalkylbenzenesulfonamide : US, 3,812, 144 (1974)
- [2] T. Tkaczyński, M. Rządowska : Synthesis of new 1-aryl-3-arylsulfonylimidazolidine-2-one derivatives, Annales UMCS Sec.DDD 1994, VI/VII
- [3] M. Rządowska, T. Tkaczyński : Synthesis of new 1-aryl-2-imino-3-arylsulfonylimidazolidine and their pharmacological activity, Pharmazie 50,822 (1995)
- [4] M Rządowska, K. Sztanke : Synthesis of new derivatives of 7-arylsulfonyl-3(2H)-oxo,thioxo,imino-5-oxo-6,7-dihydroimidazo[2,1-c][1,2,4-triazole, Annales UMCS, Sec. DDD 2002, 15,21,169-72
- [5] M. Rządowska, K. Sztanke : Synthesis of new derivatives of 7-arylsulfonyl-3(2H)-tosylimino and 3(2H)-tosylhydrazono-5-oxo-6,7-dihydroimidazo[2,1-c][1,2,4]triazole, Annales UMCS, Sec. DDD 2003, 16,21,173-6