Synthesis of New Arylsulfonylhydrazide-1,2,3-Triazole Derivatives from Diazocarbonyl Compound

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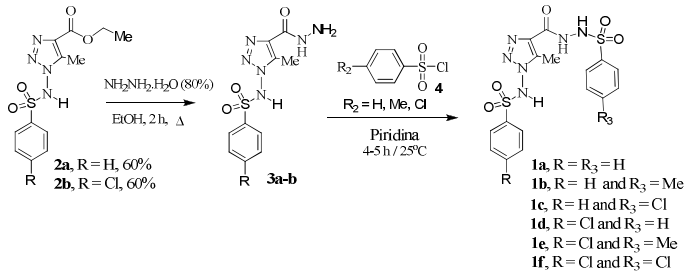
INTRODUCTION

Recently, we described the synthesis and pharmacological evaluation of 1,2,3-triazole derivatives.[1] In this study, it was found that the compounds 1-[(5´´-methyl-1´´-(4´´´-fluorophenylamino)-1*H*-1,2,3-triazol-4´´-yl)carbonyl]-2-(4´methylphenylsulfonyl)hydrazine and 1-[(5´-methyl-1´-(2´´,5´´-dichlorophenylamino)-1*H*-1,2,3-triazol-4´-yl)carbonyl]-2-(phenylsulfonyl)hydrazine exhibited a significant effect against HSV-1 replication in cell culture. In an effort to optimize the antiviral activity of these structurally triazole compounds, we now described the synthesis of a new family of triazol derivates **1a-f**.

RESULTS AND DISCUSSION

The synthesis of these new derivatives **1a-f** is shown in Scheme 1. The 1,2,3-triazoles **2a-b** were prepared in moderated yields by the condensation of ethyl 2-diazoacetoacetate with corresponding arylsulfonylhydrazides according to the method described in our previous report.[2] These compounds were converted into their corresponding carbohydrazides **3a-b** by treatment with hydrazine hydrate in refluxing ethanol.[3] Finally, the new class of triazole derivatives **1a-f** was prepared in moderated yields by the reaction of compounds **3a-b** with suitable arylsulfonyl chlorides **4a-c** in pyridine. The structures of these new compounds were fully characterized by IR and ^{1}H NMR spectroscopies.



Scheme 1. Synthesis of the new arylsulfonylhydrazide-1,2,3-triazole derivatives **1a-f**.

CONCLUSION

In conclusion, we have developed the synthesis of a new series of arylsulfonylhydrazide-1,2,3-triazole derivatives **1a-f** by the reaction of carbohydrazide compounds **3a-b** with suitable arylsulfonyl chlorides **4a-c** in pyridine. Our further efforts will be dedicated towards evaluating the biological profiles of these compounds.

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