

[54] RADIOIMMUNOASSAY OF PTERINS AND NOVEL PTERIN DERIVATIVES USEFUL THEREFOR

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[58] Field of Search ..... 544/258; 424/1, 12; 23/230 B

[56] References Cited

U.S. PATENT DOCUMENTS

3,972,991 8/1976 Caston et al. .... 424/1  
3,988,431 10/1976 Givas et al. .... 424/1.5  
3,989,812 11/1976 Barrett et al. .... 424/1  
4,028,465 6/1977 Lewin et al. .... 424/1  
4,091,087 5/1978 Barrett et al. .... 424/1  
4,115,065 9/1978 Bayly et al. .... 23/230.6  
4,135,880 1/1979 Mangiardi et al. .... 23/230 B  
4,136,159 1/1979 Stone ..... 424/1  
4,146,602 3/1979 Gutcho et al. .... 424/1  
4,202,976 5/1980 Bayly et al. .... 544/258 X

4,276,280 6/1981 Akerkar et al. .... 544/258 X

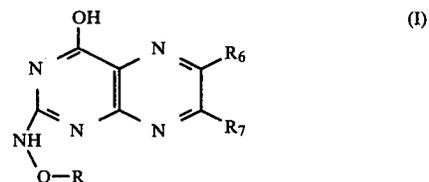
FOREIGN PATENT DOCUMENTS

2741677 3/1978 Fed. Rep. of Germany ..... 424/1  
785352 10/1957 United Kingdom ..... 544/258  
785353 10/1957 United Kingdom ..... 544/258

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[57] ABSTRACT

Pterin derivatives are described having the formula (I)



wherein R represents a hydroxyphenyl group, a radioiodinated hydroxyphenyl group, a tyraminocarbonyl group, a radioiodinated tyraminocarbonyl group, a proteinocarbonyl group or a carboxy group; Q represents a straight or branched chain alkylene group having 1 to 6 carbon atoms; and R<sub>6</sub> and R<sub>7</sub> each represents a hydrogen, an alkyl group having from 1 to 6 carbon atoms, a hydroxyalkyl group having from 1 to 6 carbon atoms; and a radioimmunoassay method is described using a radioiodinated 4-hydroxy-2-tyraminopteridine derivative or a radioiodinated 4-hydroxy-2-tyraminocarbonylalkylaminopteridine derivative as the tracer.

16 Claims, 2 Drawing Figures