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Protein Kinase C Involvement in Homologous Desensitization of δ-Opioid Receptor Coupled to G_{i1}-Phospholipase C Activation in *Xenopus* Oocytes

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δ-Opioid receptor(DOR1), coexpressed with M_2-muscarinic receptor, mediated agonist-evoked currents due to common post-receptor mechanisms including G_{i1} and phospholipase C activation in Xenopus oocytes reconstituted with G_{i1} α. The desensitization of DOR1- currents by δ-opioid agonists was selectively reversed both by protein kinase C inhibitors, and by an intracellular injection of calcineurin, a protein phosphatase 2B. This and related results suggest that protein kinase C is involved in the homologous desensitization of δ-opioid receptors.

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Photoinduced Electron-Transfer Oxygenation of 7-Methyl-9-(β-D-ribofuranosyl)guaninium Salts: A Prominent Effect of Iodide Anion

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Irradiation of 7-methyl-9-(2,3,5-tri-*O*-acetyl-β-D-ribofuranosyl)guaninium iodide (**1a**) in acetonitrile with a 260 nm UV-light resulted in the formation of 2',3',5'-tri-*O*-acetyl-7-methyl-8-oxoguanosine (**2**). Similar irradiation of the corresponding guaninium bromide (**1b**) and perchlorate (**1c**) resulted in no formation of (**2**). Addition of KI to the solution of (**1c**) led to the formation of (**2**). Therefore, the present photooxygenation requires to transfer an electron of iodide anion with low oxidation potential to the photoexcited guaninium moiety.

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Facile Synthesis of 7,8-Dimethyl-10-D-ribitylpyrimido[5,4-*b*][1,4]benzothiazine-2,4(1*H*,3*H*)-dione, a Deaza-thia Analog of 1,5-Dihydroriboflavin.

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10-Substituted 7,8-dimethylpyrimido[5,4-*b*][1,4]benzothiazine-2,4(*1H,3H*)-diones are of chemical and biological interest in view of the fairly stable analogs of reduced flavins, *e.g.*, 1,5-dihydroriboflavin, $FMNH_2$, and $FADH_2$. Along this line, the first synthesis of 10-D-ribityl derivative (**1**) has been accomplished by Hemmerich et al. in 1976. This synthetic method, however, was inadequate for the preparation of 5-deaza-thia analogs of $FMNH_2$ and $FADH_2$, since the efficiency of the thiazine-ring formation was a very low. We accomplished new synthesis of (**1**) starting from 6-(2-amino-4,5-dimethylphenyl)thio-5-bromouracil *via* regioselective ribitylation followed by S-N type Smiles rearrangement, which provides a clue to the preparation of the 5-deaza-thia analogs of $FMNH_2$ and $FADH_2$.