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Heterocyclic Compounds Derivatives Inhibit Human Prostate Cancer Cells

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SUMMARY. A series of novel organic heterocyclic compounds (**1-6**) were synthesized with the aim of using them as anti-cancer agents in prostate cancer, and their structures were characterized by IR, ^{1}H NMR, HRMS, and single crystal X-ray crystallography. Their anti-cancer activity against four human prostate cancer cells including PC3, VCaP, LNCap and DU145 were evaluated *in vitro* using the MTT assay, and the results showed that compounds **4-6** had more efficient anti-cancer activity against the four cancer cell lines, and compounds **1-3** did not show any inhibition.

RESUMEN. Se sintetizaron una serie de nuevos compuestos heterocíclicos orgánicos (**1-6**) con el objetivo de utilizarlos como agentes anticancerígenos en el cáncer de próstata, y sus estructuras se caracterizaron por IR, ^{1}H RMN, HRMS y cristalografía de rayos X de cristal único. Su actividad anticancerosa contra cuatro líneas celulares humanas de cáncer de próstata, incluyendo PC3, VCaP, LNCap y DU145, se evaluaron *in vitro* usando el ensayo MTT, y los resultados mostraron que los compuestos **4-6** tenían una actividad anticáncer más eficaz contra las cuatro células cancerosas, y los compuestos **1-3** no mostraron ninguna inhibición.

KEY WORDS: organic heterocyclic, prostate cancer, X-ray crystallography.

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