

Seminar

Monday 10 October 2011

11.00 am - Room 531

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How do L-nucleotides interact with enzymes in the nucleotide metabolism pathways?

Non-natural L-nucleoside analogues are increasingly used as therapeutic agents to treat viral infections. To be active, L-nucleosides need to be phosphorylated to their respective triphosphate metabolites. Their physiological activity relies on the fortuitous capacity of a few human enzymes to phosphorylate these non-natural compounds into their triphosphate forms. The knowledge of the molecular basis for the relaxed enantioselectivity of these enzymes is therefore essential for the rational development of efficiently metabolized L-type drugs for humans. This seminar will emphasize the molecular interactions of L-nucleotides with ribonucleotide reductase, nucleoside monophosphate kinases and 3-phosphoglycerate kinase.

References :

Alexandre, J.A.C; Roy, B.; Topalis, D.; Pochet, S.; Périgaud, C.; Deville-Bonne, D. *Nucleic Acids Res* 2007, 35, 4895-904.

Lallemand, P.; Chaloin, L., Roy, B.; Barman, T.; Bowler, M.W.; Lionne, C. *J Mol Biol* 2011, 409, 742-57.

Roy, B.; Lefebvre, I.; Puy, J.-Y.; Périgaud, C. *Tet Lett* 2011, 52, 1250-2.