



School of Pharmacy PhD Projects 2015/16

Project Title

Increasing Niacin metabolites bioavailability and controlling biodistribution

Supervisors

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Description

Vitamin B deficiencies and in particular that of Niacin yields to mitochondrial dysfunctions and to long term organs' damage. Micronutrients' availability and in particular that of Vitamin B's is particularly critical to the brain, the liver and the heart functions. In industrial countries folate's and vitamin Bs' deficiencies, causes of diseases such as Neuronal Tube Defects, Beri-Beri and Pellagra have been addressed in the early 1960 by the addition of these vitamins to basic food stuff such as flour. Yet, such supplementation can prove sub-optimal for some particular groups of the population such as neonates, elderly people, patients undertaking longer term chemotherapies and antibacterial treatments (e.g. CF and TB patients) and alcoholics. Because vitamin Bs, such as Niacin are water soluble they are formulated to be orally available. However, in order to be pharmacologically active niacin needs to be absorbed, distributed and finally metabolised to its active form, that is the coenzyme NAD(P), nicotinamide adenine dinucleotide (Phosphate). Amongst the populations mentioned above, any of these steps can be a stumbling block to the microbioavailability of the coenzyme in key tissues. We aim to develop a strategy to formulate niacin metabolites so to improve bioavailability of NAD in this particular group of people.

Contact Details

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How to Apply

Postgraduate applications should be made using Queen's Online:

<http://go.qub.ac.uk/pgapply>

Please note that there are two application processes: one for admission to the university and another for postgraduate awards.

Start Date

1st Oct 2015

Keywords

Niacin, water soluble vitamins, bioavailability.

Further Information

Additional information for prospective postgraduate students can be found on the School of Pharmacy website:

<http://www.qub.ac.uk/pha>

and the Queen's Postgraduate website:

<http://www.qub.ac.uk/home/ProspectiveStudents/PostgraduateStudents/>

