

28 a 30  
de outubro  
2016  
Bragança  
Portugal



I Congresso Nacional

# Ciências Biomédicas Laboratoriais

I Encontro Nacional  
de Estudantes

## Livro de Resumos



Instituto Politécnico de Castelo Branco  
Escola Superior de Saúde  
Dr. Lopes Dias



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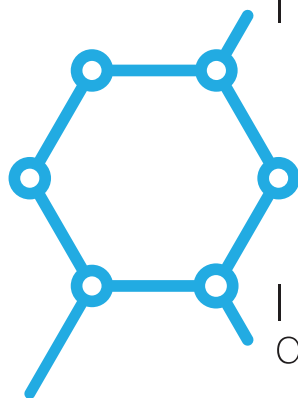
COM O ALTO PATROCÍNIO DE SUA EXCELÊNCIA



*O Presidente da República*



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Título	I Congresso Nacional de Ciências Biomédicas Laboratoriais: Livro de Resumos
Editores	Josiana Vaz Amadeu Ferro Clarisse Pais Helena Pimentel Sara Ricardo
Design e paginação	Atilano Suarez Serviços de Imagem do Instituto Politécnico de Bragança
Editor	Instituto Politécnico de Bragança
ISBN	978-972-745-211-8
Handle	<a href="http://hdl.handle.net/10198/13540">http://hdl.handle.net/10198/13540</a>

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Apoio



# Dietary compounds that modify bilirubin levels

## **Rosa Pereira**

School of Health, Polytechnic Institute of Bragança, Bragança, Avenida D. Afonso V - 5300-121 Bragança, Portugal –  
rosa\_94\_pereira@hotmail.com

## **Sandrine Monteiro**

School of Health, Polytechnic Institute of Bragança, Bragança, Avenida D. Afonso V - 5300-121 Bragança, Portugal –  
sandrine.isa@hotmail.com

## **Carina Rodrigues**

School of Health, Polytechnic Institute of Bragança, Bragança, Avenida D. Afonso V - 5300-121 Bragança, Portugal;  
Research Unit on Applied Molecular Biosciences - REQUIMTE, Faculty of Pharmacy, University of Porto, Porto, Portugal –  
carina@ipb.pt

## **Josiana Vaz**

School of Health, Polytechnic Institute of Bragança, Bragança, Avenida D. Afonso V - 5300-121 Bragança, Portugal;  
Mountain Research Centre (CIMO), Instituto Politécnico de Bragança, Campus de Santa Apolónia, Apartado 1172, 5301-  
855 Bragança, Portugal – josiana@ipb.pt

## **Isabel C.F.R. Ferreira**

Mountain Research Centre (CIMO), Instituto Politécnico de Bragança, Campus de Santa Apolónia, Apartado 1172, 5301-  
855 Bragança, Portugal – iferreira@ipb.pt

## Resumo

Bilirubin (BL) is a bile pigment that arises from the catabolism of hemeproteins and it is an important biochemical marker for diagnosis and monitoring of hepatic and hematologic diseases. The high concentration of this metabolite in plasma may be associated with disturbances in production, metabolism and/or excretion. Several in vivo in vitro studies have established the antioxidant, anti-inflammatory and anti-tumoral bilirubin capacity. The main objective was to verify that the effects of certain drugs and nutritional compounds on the metabolism of bilirubin, as well as studying the effects of radical substances in the UGT1A1 gene in addition have also studied the effect of various enzymes on serum bilirubin. The methodology was a detailed search online database, such as Pubmed, NCBI, ScienceDirect and books, a five-month period. Several studies refer four botanical groups as associated to changes in bilirubin concentrations Cruciferae (e.g., broccoli), Rutaceae (citrus), Liliaceae (e.g., onions), and Leguminosae (legumes). In a hyperbilirubinemic condition, the best approach would include the increasing UGT1A1 expression and this can be achieved with foods from the botanical families Cruciferae, Rutaceae, Liliaceae, and Leguminosae. Regulation of UGTs by phytochemicals has been investigated with a focus on cancer prevention numerous inhibitors from plant origin. The strategy to rise SBL, inhibiting UGT1A1 activity appears unreasonable. Several studies show that low serum bilirubin concentrations are associated with an increased risk of chronic diseases, whereas slightly elevated serum bilirubin levels seems to provide protection. The enzymes HO-1 and BLV will also have an important role in the development of therapeutic strategies based on dietary compounds however for these two enzymes there was considerable less information about their inducers and inhibitors. It is proven that the ingestion of certain foods affects the metabolism of bilirubin and the expression of UGT1A1 gene. Thus, it is justified the need for further studies to demonstrate the potential of food to control the maintenance of bilirubin in order to identify possible functional foods.

## Palavras-chave:

**Bilirubin levels, hyperbilirubinemia, oxidative stress, prevention, acquired factors, genetic, dietary compounds**