B U L G A R I A N A C A D E M Y O F S C I E N C E S
International Scientific Cooperation

Форма **B1**	Country: **Czech Republic**	Partner of BAS: **Academy of the sciences of the Czech Republic**

Reg.[1]: (попълва се от БАН-ЦУ)

JOINT RESEARCH PROJECT

Antioxidative and antiinflammatory effects of black chokeberry (*Aronia melanocarpa*) polyphenols with respect to intestinal inflammation.

Research partners:

Institute of BAS:	**Partner institute:**
Institute of Organic Chemistry with Centre of Phytochemistry, Laboratory of Biologically Active Substances - Plovdiv	**Institute of Biophysics of the ASCR, v.v.i.**
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Director: prof. Petko Ivanov	Director: Assoc. prof. Stanislav Kozubek, DrSc
Project coordinator: Petko Denev, PhD	**Project coordinator:** Assoc. prof. Antonín Lojek, Ph.D.
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Beginning: 01.2014	**Duration: 3 years**

3. To characterize antioxidative properties of chokeberry polyphenols against reactive oxygen and nitrogen species via different methods: ORAC, TRAP, HORAC, TEAC, scavenging of nitric oxide, inhibition of lipid peroxidation.

Preliminary research plan for the second year:

The following parameters will be analyzed to characterize effects of chokeberry polyphenols on inflammatory response of neutrophils:
1. Microslide motility experiments will be assessed using microslides IBIDI
2. The oxidative burst of neutrophils will be measured using the methods of chemiluminescence and fluorescence
3. Phagocytic activity will be determined using fluorescein-labelled bacteria of Staphylococcus aureus

Preliminary research plan for the third year:

The experiments will be based on results obtained within the first and second year. The main aim will be to characterize molecular mechanisms underlying the inhibition of ROS production by neutrophils using chokeberry polyphenols. The following analyses will be performed:
1. Expression of NADPH oxidase and regulatory subunits will be determined by WB analysis.
2. The expression of surface molecules (CD10, CD11b, CD14, CD35 and CD66b) will be measured using flow cytometer.
3. Neutrophil protein kinase C activation and its isoforms alpha and beta II will be analysed by western blot.

Scientific staff involved in the project:

From the Bulgarian side:	From the partner side:
Assoc prof. Maria Kratchanova	Assoc. Prof. Antonín Lojek, Ph.D.
Assist. prof. Petko Denev, PhD	RNDr. Milan Číž, Ph.D.
	Gabriela Ambrožová, PhD

Annexes:

SIGNATURES

On behalf of BAS:	On behalf of ASCR
Project coordinator:	Project coordinator:
Director:	Director:
Signed in: Sofia	Signed in: Brno
Date: September, 16, 2013	Date: September 16, 2013

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