

Name: Dorotea Muck-Seler, Ph.D.  
Address: Division of Molecular Medicine  
Ruđer Bošković Institute, Bijenička 54  
10000 Zagreb, Croatia  
Tel.: +385 1 4571207  
Fax.: +385 1 4561010  
E-mail: [seler@irb.hr](mailto:seler@irb.hr)

Work program I am interested /Topics:

**HEALTH-2007-A-1.2.2.1-4: Memory loss: underlying mechanisms and therapy.**

**HEALTH-2007-A-1.2.1.1-2: Molecular epidemiological studies in existing well characterized European (and/or other) population cohorts.**

**HEALTH-2007-A-1.2.1.1-3: Comparative studies of genetic variation in humans: towards a reference population in Europe.**

**HEALTH-2007-B-1.2.2.2-1: Biomarkers of ageing**

**Knowledge to offer:**

For the past 30 years I have been working on the role of neurotransmitters (particularly serotonin) in the ethiopathogenesis and treatment of neuropsychiatric disorders (unipolar and bipolar depression, schizophrenia, Alzheimer's disease, PTSD, alcoholism). More specifically, we studied the rate of serotonin synthesis in the rat brain regions, the characteristics of serotonergic receptors (5-HT<sub>1A</sub>, 5-HT<sub>2A</sub>) in vitro, the effects of antidepressants and antipsychotics on peripheral serotonergic parameters (platelet serotonin concentrations and platelet MAO activity) in patients with mental disorders, peripheral serotonergic parameters as markers for treatment response and polymorphisms of the gene promoters for proteins related to serotonergic and catecholaminergic systems. We are skilled in neurobiochemical and genetic methods.

**Role in the project:**

Perform the research on the biochemical and genetic markers of the serotonergic and catecholaminergic systems that could be related to the memory loss in healthy persons and patients with neurodegenerative and/or psychiatric diseases. We would like to find out the biomarkers that could be also relevant for the development of therapy(ies) counteracting memory deficits. Our overall goal is to determine the specific biomarker(s) that could potentially be used for the identification of the persons at a higher risk of developing memory loss, who might benefit from early diagnosis and preventive therapy.