Vesna Jevtovic-Todorovic, M.D., Ph.D., MBA

Research Interests and Funding

Broadly, my research interests focus on mechanisms by which anesthetic drugs interact with neurotransmitter systems in the central nervous system to produce both pharmacological and toxicological effects.

My primary interests thus far have centered on the identification and characterization of neurotoxic properties of commonly used intravenous and inhalational anesthetics with special emphasis on NMDA antagonist class of general anesthetics. It has extended to include several studies that have looked at the pharmacological ways of protection against this type of neurotoxicity. This research is federally funded by NIA/NIH.

Another important aspect of my research is focused on pathophysiology and pharmacology of the neuropathic pain using whole animal models and a variety of neurobehavioral tests.

Current funding

- 2009-2012 Recovery Act Grant: “Anesthesia-induced developmental neuroapoptosis.” NIH/NICHD.
  Principal Investigator: Vesna Jevtovic-Todorovic ($150,000 total direct cost) (10% effort).
- 2010-2011 LaunchPad Grant: “Use of Rho Kinase Inhibitors for Treatment of Peripheral Diabetic Neuropathy.” UVA School Medicine Biomedical Innovation in Diabetes.
  Principal Investigators: Vesna Jevtovic-Todorovic (5% effort) and James Mandell ($64,000 total direct cost).
- 2010-2013 American Diabetes Association 7-09-BS-190:”The role of T-type calcium channels in painful diabetic neuropathy.”
  Co-Investigator: Vesna Jevtovic-Todorovic ($300,000 direct cost) (15% effort).
- 2010-2012 R21 DA029342: “Validation of voltage-dependent T-channel blockers in treatment of neuropathic pain.”
  Principal Investigators: Vesna Jevtovic-Todorovic (5% effort) and Slobodan M. Todorovic (5% effort) ($250,000 total direct cost).
- 2011-2014 R01: “Anesthesia-induced developmental neurodegeneration.” NIH/NICHD.
  Principal Investigator: Vesna Jevtovic-Todorovic (30% effort) ($1,893,750 total direct cost).

- 2011-2014 March of Dimes National Award: “Anesthesia-induced risks of cognitive impairment during early stages of development: mechanism and prevention.” Principal Investigator: Vesna Jevtovic-Todorovic (10% effort) ($334,638 total direct cost).