

<p><b>Activity Name:</b></p> <p style="text-align: center;"><b>Flow cytometer</b></p>	<p><b>Category:</b> D. In-vitro toxicity studies</p> <p><b>Institute:</b> Slovak Medical University</p> <p><b>Location:</b> Limbova 12, 833 03 Bratislava, Slovakia</p> <p><b>Contact Details of Expert:</b></p> <p><b>Name:</b> Mira Horvathova, Jana Tulinska, Aurelia Liskova, Miroslava Kuricova</p> <p><b>Phone:</b> +421 2 59370830, 244, 242, 540</p> <p><b>E-mail:</b> <a href="mailto:mira.horvathova@szu.sk">mira.horvathova@szu.sk</a>, <a href="mailto:jana.tulinska@szu.sk">jana.tulinska@szu.sk</a>, <a href="mailto:aurelia.liskova@szu.sk">aurelia.liskova@szu.sk</a>, <a href="mailto:miroslava.kuricova@szu.sk">miroslava.kuricova@szu.sk</a></p>
<p><b>Short technology description/Overview</b> (approx 300 words):</p> <p><b>Flow cytometer EpicsXL</b></p> <p>The systems have the capacity to conduct 3-color fluorescence (with 4-color option) analysis using single (488nm) air-cooled laser configuration. The EPICS XL is research cytometer and clinical analyzer designed for maximum sample throughput in IVD applications. Cytometer is self contained and biohazard safe. The EPICS XL offers state-of-the-art Digital Signal Processing for reliable linearity and drift free signal amplification and color compensation. This color compensation can be easily adjusted between all fluorescence parameters either manually or automatically utilizing an automated setup panel.</p> <p>Our <b>typical assays performed</b> using instrument:</p> <p>Immunophenotypic analysis of leukocyte subsets, expression of adhesion molecules, expression of activation molecules, phagocytic activity and respiratory burst of leukocytes (<i>Staphylococcus aureus</i>, <i>Candida albicans</i>) etc.</p> <p><b>Nanoparticles:</b></p> <p>In our labs, we used selected immune assays for evaluation of the potential immunotoxic effect of nanoparticles: titanium dioxide (TiO<sub>2</sub>), poly (D, L-lactide-co-glycolide) (PLGA), silica (SiO<sub>2</sub>), Endorem, uncoated magnetite (Fe<sub>3</sub>O<sub>4</sub>) and sodium oleate coated magnetite. Human peripheral blood leukocytes were exposed with nanoparticles <i>in vitro</i>. Rat animal model was dosed with nanoparticles <i>in vivo</i> intravenously.</p> <p><b>Possible test systems:</b> human peripheral blood leukocytes, rat (mouse) blood cells</p>	
<p><b>Main Features (Equipment Capabilities):</b></p> <ul style="list-style-type: none"> <li>▪ Flow cytometer Epics XL (Beckman Coulter) –</li> </ul> <p><b>Other equipment necessary to perform assays:</b></p> <ul style="list-style-type: none"> <li>▪ Hematology analyzer - Sysmex K 4500</li> </ul>	

- Biohazard laminar box
- Centrifuge - Hettich
- Incubator with CO<sub>2</sub> atmosphere - Jouan, Heracell
- Light microscope - Leitz

**Typical Samples & Images:**

*Any further Information:*