# Project summary

**The research goals of Project no. 175045 are:**

1. to examine the efficacy of second/third generation antiepileptic drugs, as well as other potential adjuvant analgesics in models of inflammatory and neuropathic pain,
2. to examine the mechanism of analgesic action of second/third generation antiepileptic drugs and other potential adjuvant analgesics,
3. to examine the efficacy of combinations of new adjuvant analgesic drugs and existing standard/adjuvant analgesics and to determine the type of interaction between these drugs,
4. to examine the adverse/toxic effects of second/third generation antiepileptic drugs, other potential adjuvant analgesic drugs, as well as their combinations with existing standard/adjuvant analgesics,
5. to examine the analgesic/antiedematous activity of different herbal products (herbal extracts and essential oils), and other natural products in animal models of localized inflammation,
6. to examine the analgesic/antiedematous activity of new formulations (for oral and topical application) of non-steroidal anti-inflammatory drugs (NSAID), and antiepileptic drugs in animal models of localized inflammation.

Keywords**:** antiepileptic drugs, alternative analgesics, herbal extracts and essential oils, novel (oral/topical) NSAID formulations, inflammatory pain, neuropathic pain

## Selected results/Odabrani rezultati

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# Sažetak projekta

**Ciljevi istraživanja u okviru Projekta ON 175045 su:**

1. ispitivanje efikasnosti antiepileptika druge/treće generacije, kao i drugih potencijalnih adjuvantnih analgetika u modelima inflamatornog i neuropatskog bola,

2. ispitivanje mehanizama analgetičkog dejstva antiepileptika druge/treće generacije i drugih potencijalnih adjuvantnih analgetika,

3. ispitivanje efekata kombinovane primene novih adjuvantnih analgetika i postojećih standardnih/adjuvantnih analgetika i određivanje vrste interakcije između njih,

4. ispitivanje neželjenih/toksičnih efekata antiepileptika druge/treće generacije, drugih potencijalnih adjuvantnih analgetika, kao i njihovih dvokomponentnih kombinacija sa postojećim standardnim/adjuvantnim analgeticima,

5. ispitivanje analgetičke/antiedematozne aktivnosti različitih proizvoda biljnog porekla (biljnih ekstrakta i etarskih ulja), kao i drugih prirodnih proizvoda u animalnim modelima lokalizovane inflamacije,

6. ispitivanje analgetičke/antiedematozne aktivnosti novih formulacija (za peroralnu i topikalnu primenu) analgetika iz grupe nesteroidnih anti-inflamatornih lekova (NSAIL) i antiepileptika u animalnim modelima lokalizovane inflamacije.

**Ključne reči:** antiepileptici, alternativni analgetici, biljni ekstrakti i etarska ulja, nove (oralne/topikalne) formulacije NSAIL, inflamatorni bol, neuropatski bol,