

# The use of chicory as an alternative method of pain relief

## Research of analgesic properties *in vivo*

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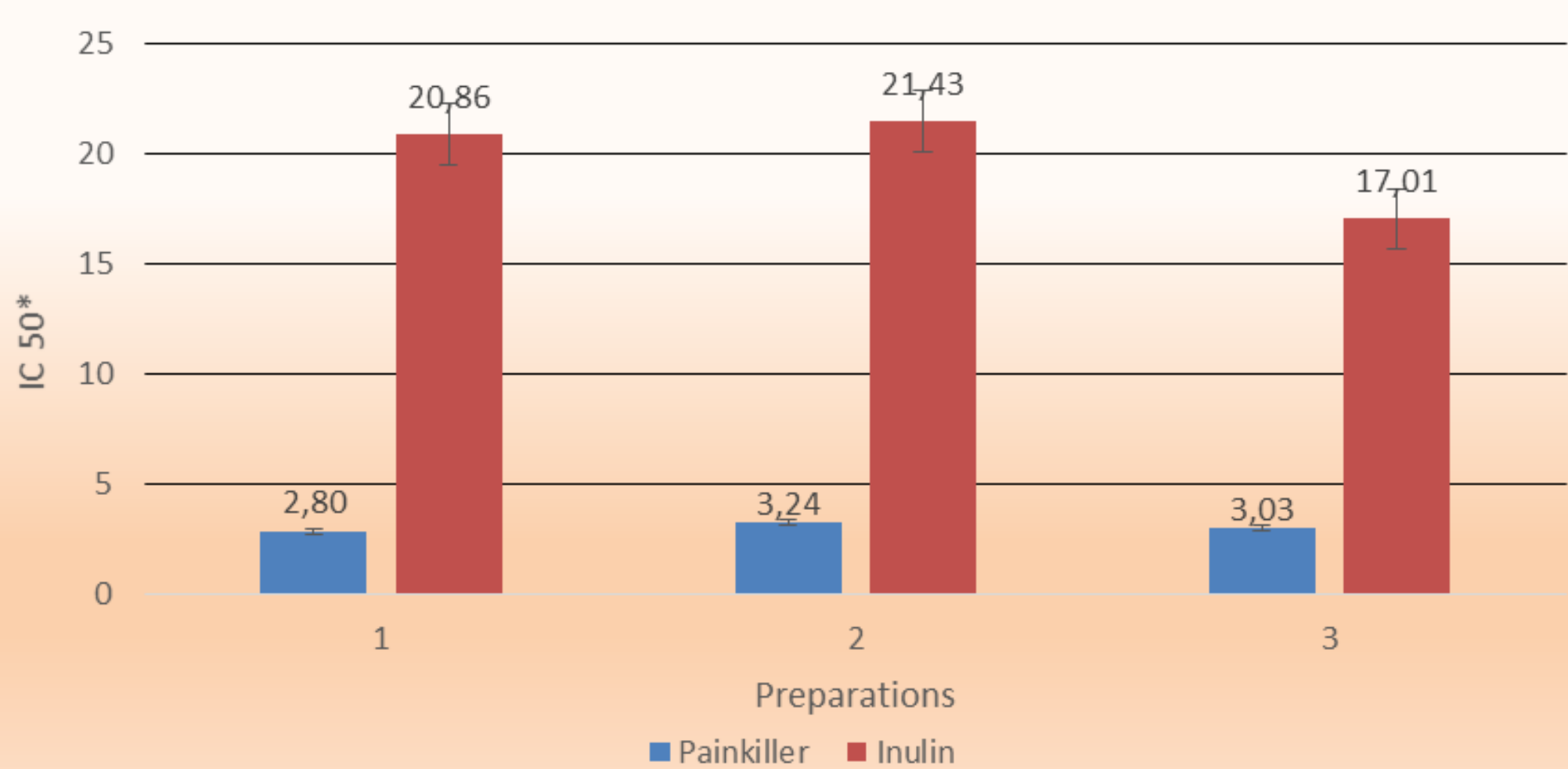
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### Introduction

The purpose of my dissertation is to analyze the substances contained in chicory (*Cichorium Intybus* L.) for use as an alternative method of pain relief. Based on a literature review, my dissertation focuses on two substances showing potential analgesic properties. These are lactucin and lacticopicrin.

### *In vitro* Toxicity for control groups

IC50 dependence on the test preparation



	Painkiller	Inulin
1	2,80	20,86
2	3,24	21,43
3	3,03	17,01
average	3,02	19,77
deviation	0,22	2,40
rsd	7,19	12,15

\*The half maximal inhibitory concentration (IC50) is a measure of the potency of a substance in inhibiting a specific biological or biochemical function

### *In vivo* Analgesic Properties

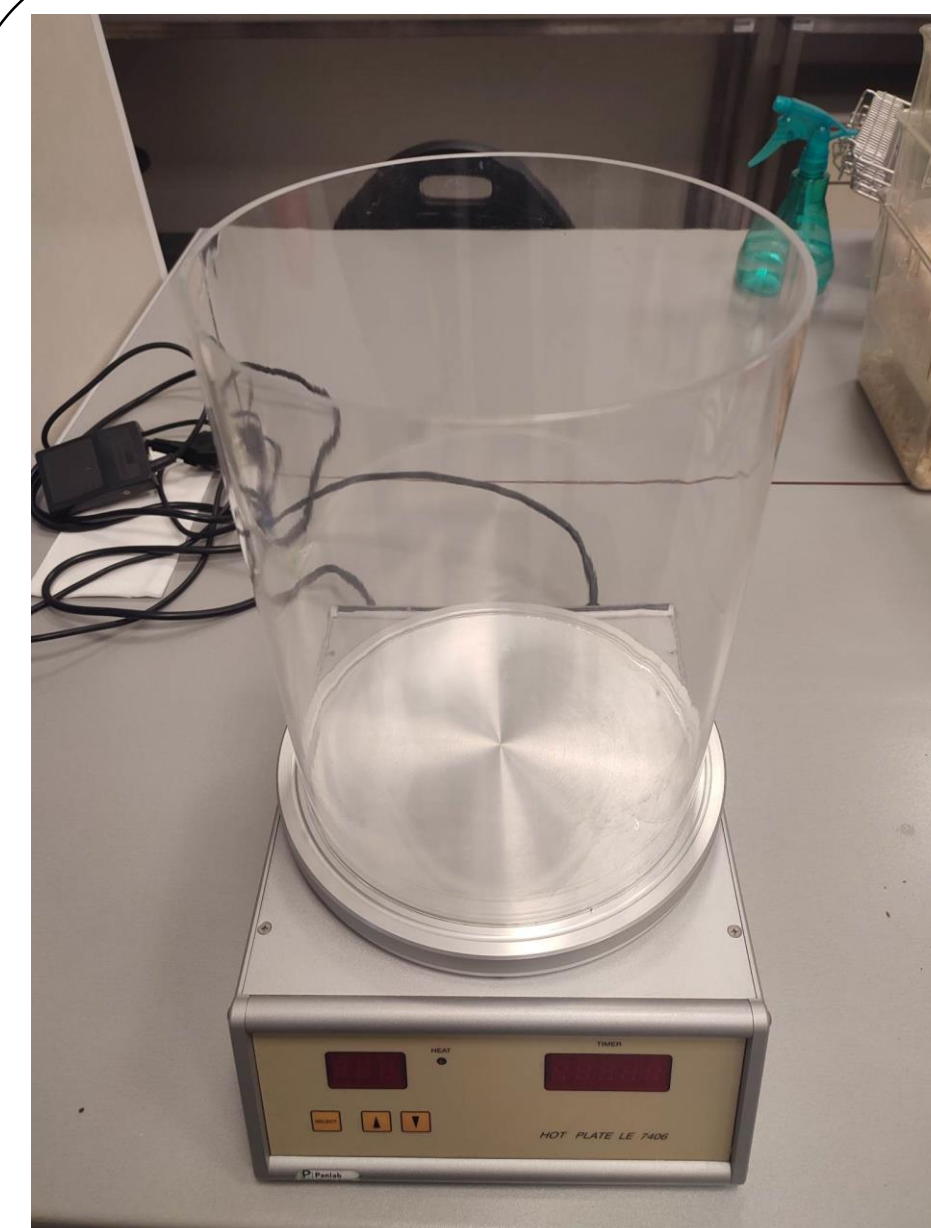
Fig. 1. Mice in quarantine



Fig. 2. Mice before research



Fig. 3: Hot plate test device



### Times [s]

Average Control Licking	14,89	Average Control Raise	30,33	Average Control Jump	99,33
Average Chicory Licking	13,67	Average Chicory Raise	41,89	Average Chicory Jump	104,22
Average Painkiller Licking	12,67	Average Painkiller Raise	38,67	Average Painkiller Jump	101,00
Average Inulin Licking	17,44	Average Inulin Raise	44,00	Average Inulina Jump	85,44

The animals on which the study was conducted were house mice (*Mus musculus*), strain BALB/C (males). The species was chosen based on the research methodology published in the literature, as well as the experience of the project contractors. The size of the groups, was determined to obtain statistically significant results with as few animals as possible based on the 3R rule. The number of animals was set at 40 mice. The next step was to administer chicory extract, as well as the other substances present in the control groups, using an esophageal probe, and then a hot plate test was performed on each mouse according to the method of Eddy and Leimbach.

During the test, 3 groups were used:  
 1 control group - solvent  
 2 group - standard analgesic drug (aspirin)  
 3 group - inulin.  
 And  
 1 experimental group – chicory extract

