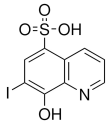
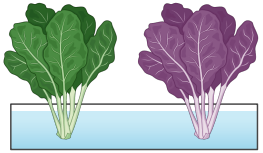
THE EFFECTS OF KALE BIOFORTIFIED WITH 8-HYDROXY-7-IODO-5-QUINOLINESULFONIC ACID ON IODINE CONCENTRATION IN VARIOUS TISSUES AND CHANGES OF SELECTED THYROID-REGULATED BIOCHEMICAL PARAMETERS IN BLOOD SERUM OF WISTAR RATS

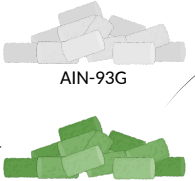


1. Application of 8-OH-7-I-5QSA iodoquinoline in hydroponic system



'Oldenbor F_1' 'Redbor F_1'

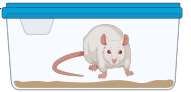
2. Preparation of diets

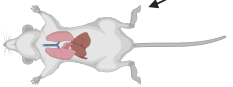


AIN-93G

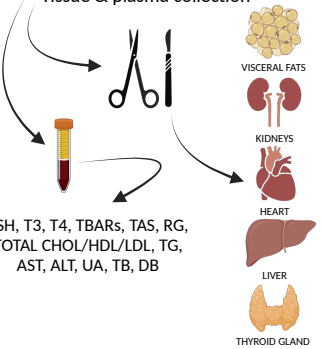
AIN-93G + KALE NON- AND BIOFORTIFIED BOTH CULTIVARS

3. *In vivo* studies





4. Euthanasia and termination of the experiment after 8 weeks. Tissue & plasma collection



TSH, T3, T4, TBARs, TAS, RG, TOTAL CHOL/HDL/LDL, TG, AST, ALT, UA, TB, DB

5. Research on iodine bioavailability and thyroid-regulated biochemical paramters

RESULTS

Rats fed diets with 'Oldenbor F_1' and 'Redbor F_1' kale biofortified with iodoquinoline 8-OH-7-I-5QSA resulted in significantly **higher iodine concentrations** in the **urine and kidneys** of rats, which **proves good bioavailability.**

Rats fed diets with 'Oldenbor F_1' and 'Redbor F_1' kale non- and -biofortified with iodoquinoline 8-OH-7-I-5QSA had a **significant effect on lower or tendency to the lower** concentration: **TSH, TG, TB, DB, TBARs, UA, AST, ALT** concentrations in serum rats.

Rats fed diets with 'Oldenbor F_1' and 'Redbor F_1' kale biofortified with iodoquinoline 8-OH-7-I-5QSA significantly **increased total antioxidant status - TAS.**

The study confirms that kale biofortified with iodine in organic form iodoquinoline 8-OH-7-I-5QSA **is bioavailable and well absorbed by the Wistar rat** and **has a positive effect on selected biochemical parameters.**

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