variations in methylation levels. We obtained a small set of 13 CpG markers that showed a high correlation between DNA methylation pattern and age (R^2=0.78-0.91). We used R caret package to combine these markers in 4 groups that individually demonstrated high correlation between predicted and chronological age. The sequences surrounding most highly predictive CpGs were selected for locus-specific DNAm analysis. For validation, we analyzed biological age of about 300 individuals using our model. Our current MAD is 4.67 years, and sampling variation is on average +/- 0.1 years.

Conclusions. We have developed TruAge index that is precise and highly reflective of age-related changes in metabolism, physiology and lifestyle. Our assay is cost-effective, quantitative, fast and not requiring sophisticated bioinformatics pipeline.

CHARACTERISTICS OF SENSITIZATION TO POLLEN, DOMESTIC, FOOD ALLERGENS IN CHILDREN WITH CYSTIC FIBROSIS

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Introduction. Cystic fibrosis (CF) is one of the most common hereditary diseases with variety of clinical manifestation depending on not only difference of CF transmembrane conductance regulator gene mutations, but also on other modifiers that affect the phenotype of the disease. Atopy which caused by sensitization to different allergens can be one of the following factor.

The aim of the study. To determine sensitization to pollen, domestic and food allergens in children with cystic fibrosis.

Materials and methods. The research was conducted in the pulmonology department of the Kharkiv Regional Clinical Children's Hospital No 1 in 2015-2018. The levels of sensitization to different allergens (food, pollen, domestic) were determined by skin prick tests using standardized allergen extracts which were produced by the company "Immunologist" in Vinnitsa, according to the "Instruction on the procedure for conducting a specific diagnosis and immunotherapy of allergic diseases" approved by the Order of Ministry of Healthcare of Ukraine of 02.04.2002 № 127/18. Mathematical processing of the results was carried out using the IBM SPSS 23. The study was conducted according to human rights and ethical norms.

Results. Forty-two children with cystic fibrosis were examined. Most patients (54.79 ± 6.48) % had results of the total serum IgE within the age range, (45.21 ± 7.82) % of the patients had elevated levels. During studing the sensitization level to different allergens (n = 50, food, domestic, pollen) in patients with elevated levels of total IgE (provided by the compliance with the patient and his parents, n = 13) a very high reaction to dandelion (7.69 ± 7.69) %; hight reaction to ragweed (23.07 ± 11.92) %, cats (7.69 ± 7.69) %, house-dust mites (7.69 ± 7.69) %, dandelions (7.69 ± 7.69) %; moderate reaction to house-dust mites (38.46 ± 13.53) %, cocoa (30.79 ± 13.22) %, orange (23.07 ± 11.92) %, cat fur (15.38 ± 9.61) %, egg whites (15.38 ± 9.61) %, chicken (15.38 ± 9.61) %, lemons (15.38 ± 9.61) %, cabbage (15.38 ± 9.61) %, sunflower (15.38 ± 9.61) %, timothy (15.38 ± 9.61) %, plantain $(15.38 \pm 9,61)$ %, foxtail (15.38 ± 9.61) %, dandelions (15.38 ± 9.61) %, apples (7.69 ± 7.69) %, tangerine $(7.69 \pm$