miRNA identified that plays role in milk allergy

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(HealthDay)—MiR-193a-5p is a post-transcriptional regulator of

interleukin-4 (IL-4) expression and could have a role in children's cow's milk allergy (CMA), according to a study published online Aug. 30 in *Allergy*.

Valeria D'Argenio, M.D., from the University of Naples Federico II in Italy, and colleagues collected peripheral blood mononuclear cells from children aged 4 to 18 months, including 10 CMA patients, nine CMA patients who outgrew CMA, and 11 healthy controls. Next-generation sequencing was used to create small RNA libraries, as well as a functional assessment of IL-4 expression.

The researchers found that among the micro RNAs (miRNAs) differently expressed, two were up-regulated and 14 were down-regulated in children with active CMA versus healthy controls. In children with active CMA, miR-193a-5p was the most down-regulated miRNA, compared to healthy controls. The predicted targets of miR-193a-5p were up-regulated in CMA patients. A significant up-regulation of IL-4 mRNA and its protein expression occurred when peripheral blood CD4+ T cells were transfected with a miR193a-5 inhibitor. Levels of miRNA-193a-5p and expression of its related targets in children who outgrew CMA were similar to that seen in healthy controls.

"This miRNA could be a novel diagnostic and therapeutic target for this common form of food allergy in childhood," the authors write.

More information: Abstract
Full Text (subscription or payment may be required)