

Basophil reactivity to allergens varies by time of day

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Image courtesy of Blausen Medical

(HealthDay)—Circadian variations in gene expression may contribute to temporal variations in the symptoms of seasonal allergic rhinitis, according to research published online Dec. 2 in *Allergy*.

Noriko Ando, M.D., of the University of Yamanashi in Japan, and colleagues examined allergen-specific basophil reactivity according to circadian clock activity in murine models.

The researchers found that allergen-induced surface CD203c expression on basophils in seasonal [allergic rhinitis](#), in response to Japanese cedar pollen, was dependent on time of day according to temporal variations of canonical circadian clock [gene expression](#). Bone marrow-derived basophils generated from wild-type mice showed variation in immunoglobulin E-mediated interleukin 4 and histamine production that

was dependent on time of day. This pattern was not observed in bone marrow-derived basophils generated from *Clock*-mutated mice.

"Therefore, allergen-specific basophil reactivity shows daily variations depending on the [circadian clock](#) activity in basophils, which could partly explain temporal symptomatic variations in allergic rhinitis," the authors write.

More information: [Abstract](#)
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