

Correspondence

Reply

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To the Editor:

We thank Sabato et al¹ for the additional information provided and thoughtful comments on the suitability of fluorochrome-labeled diamine oxidase (DAO) for measuring histamine release in basophils at a single-cell level. In our study,² we aimed to evaluate the use of intracellular fluorochrome-labeled DAO compared with surface markers as an indicator of basophil activation in patients with grass pollen-induced allergic rhinitis and to explore the potential of labeled DAO as a functional biomarker of efficacy and tolerance after subcutaneous and sublingual grass pollen immunotherapy. The study reported by Nullens et al³ evaluates the use of labeled DAO for measuring functional basophil response in 23 adults who received rush wasp venom immunotherapy for 6 months. The findings by Nullens et al³ and our independent study² confirm the usefulness of fluorochrome-labeled DAO for measuring histamine release at a single-cell level for monitoring basophil response during/after treatment. However, its role as a surrogate biomarker for monitoring efficacy and tolerance after immunotherapy remains to be further investigated in a large prospective randomized placebo controlled immunotherapy trial.

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Disclosure of potential conflict of interest: M. H. Shamji and S. R. Durham have received research support from the Immune Tolerance Network (National Institutes of Health contract no. 01 AI5416).

REFERENCES

1. Sabato V, Faber M, Bridts CH, De Clerck L, Ebo DG. Measuring histamine content and release at single-cell level during venom allergy immunotherapy. *J Allergy Clin Immunol* 2015;135: XXX-XXX.
2. Shamji MH, Layhadi JA, Scadding GW, Cheung DK, Calderon MA, Turka LA, et al. Basophil expression of diamine oxidase: a novel biomarker of allergen immunotherapy response. *J Allergy Clin Immunol* 2014. <http://dx.doi.org/10.1016/j.jaci.2014.09.049>.
3. Nullens S, Sabato V, Faber M, Leysen J, Bridts CH, De Clerck LS, et al. Basophilic histamine content and release during venom immunotherapy: insights by flow cytometry. *Cytometry B Clin Cytom* 2013;84:173-8.

<http://dx.doi.org/10.1016/j.jaci.2014.12.1944>