



Response to the letter to the editor

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We thank the letter to the editors by Fujii et al. and appreciate their excellent work in investigating the permeability of radioisotopes, including ^{211}At , with various protective materials. As they have pointed out, volatility was reported for ^{211}At , similar to iodine as a halogen isotope. We assume that permeability depends on the gap of the materials at the micro level. Since all films, which are collectively called plastics, have small pores, it is inevitable that gases, including oxygen and nitrogen, will pass through them. When the plastic films are arranged in descending order of gas permeability, they are as follows: polyethylene > polyvinyl chloride > polyvinylidene chloride [1]. This exactly matches the astatine transmittance data published by Ohnuki et al. [2].

In the production of [^{211}At]NaAt solutions for the current clinical trial, we add ascorbic acid and adjust the pH to increase the At^- component, which then stabilizes the behavior of ^{211}At [3]. As a result, the volatility of ^{211}At is dramatically decreased, and ^{211}At can be safely handled by healthcare professionals [4, 5]. Nevertheless, as safe handling is the most important aspect of clinical application, we need to pay special attention to contamination. In response to this letter by Fujii et al., we would like to reexamine the optimal protection materials for [^{211}At]NaAt, considering the revisions of the manual for proper use [6].

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