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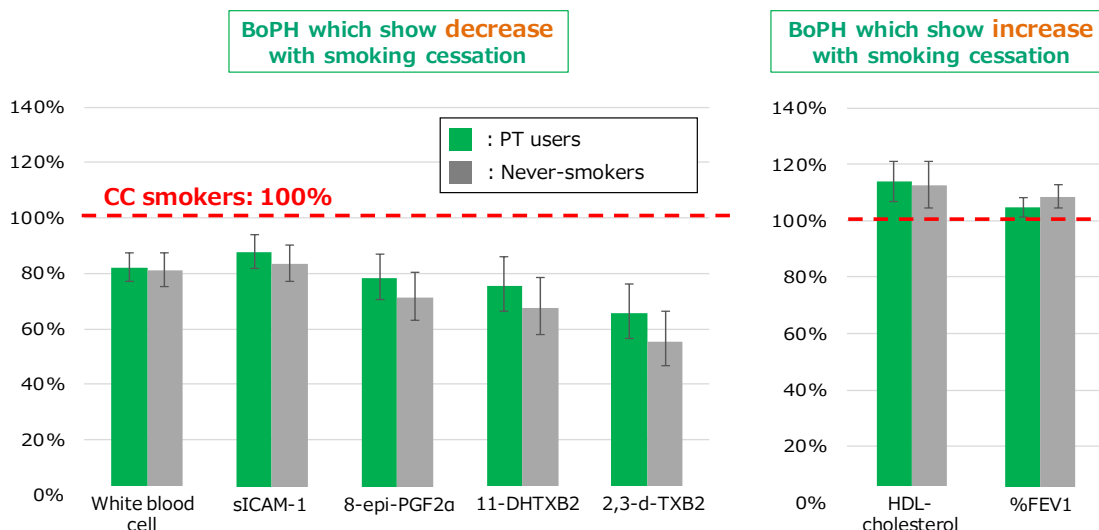
## Clinical study shows biomarker of potential harm measured in Ploom TECH users is close to never-smokers

Japan Tobacco Inc. (JT) (TSE: 2914) today announces the results of a clinical study showing the biomarker of potential harm measured in Ploom TECH users was significantly different from those in combustible cigarette smokers and instead closer to those in people who have never used any tobacco or nicotine containing products (never-smokers). The study was conducted in consultation with medical advisor, Yuji Kumagai, M.D., Ph.D. Professor, Kitasato Clinical Research Center.

“Although further research is required, this new clinical study again highlights that Ploom TECH has the potential of reducing the health risks associated with smoking,” said Ian Jones, Vice President, R&D Principal Scientist, JTI.

- Biomarkers of potential harm (BoPH) associated with smoking-related diseases in Ploom TECH (PT) users were compared to those in combustible cigarette (CC) smokers and never-smokers\*.
- The values of BoPH in PT users were significantly different from those in CC users.
- Further, the values of BoPH observed in PT users was close to those observed in never-smokers\*.

### **Each BoPH in PT users and never-smokers (as a percentage of CC users)**



\* People who have never used any tobacco and nicotine-containing products  
(Ratio of geometric mean  $\pm$  95% confidence interval)

## Study overview

- ✓ Study period: May – September 2019 (Study Report Finalization: March 2020)
- ✓ Study site: Medical Corporation Shinanokai Shinanozaka Clinic (Tokyo, Japan)  
Medical Corporation Heishinkai OCROM Clinic (Osaka, Japan)
- ✓ Study design: Seven kinds of BoPH linked to smoking related diseases in the 259 PT users were measured, then compared to those in the 100 CC smokers and 100 never-smokers. This study was conducted after approval to conduct by the Institutional Review Board on each site.
- ✓ Medical advisor: Yuji Kumagai, M.D., Ph.D. Professor, Kitasato Clinical Research Center
- ✓ Selected BoPH:

White blood cell*	sICAM-1*,※1)	HDL-cholesterol*	8-epi-PGF2α*,※2)
11-DHTXB2*,※3)	2,3-d-TXB2*,※4)	%FEV1**,※5)	

\* BoPH linked to Cardiovascular Disease (CVD), \*\* BoPH linked to Chronic Obstructive Pulmonary Disease (COPD)

※1) Soluble intercellular adhesion molecule-1, ※2) 8-epi-prostaglandin F2 alpha, ※3) 11-dehydro-thromboxane B2,

※4) 2,3-dinor thromboxane B2, ※5) Percent predicted forced expiratory volume in one second

“We continue to engage in research and development of evaluation methods that would provide scientific evidence of risk reduction in our Reduced-Risk Products ※6). As we continue with our studies, we will communicate our progress on our science website, JT-science.com,” added Ian Jones.

※6) Reduced-Risk Products (RRPs) are products with the potential to reduce the health risks associated with smoking.

JT Science (URL: <https://www.jt-science.com/>)

In addition to providing general explanation on Reduced-Risk Products and nicotine, “JT Science” introduces and explains the company’s R&D resources as well as its approach towards R&D. The site includes a document center which archives external publications such as scientific papers and conference presentations that JT has published, with updated information as needed.



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*Japan Tobacco Inc. is a leading international tobacco company with operations in more than 130 countries. With approximately 62,000 employees, it manufactures and sells some of the world’s best-known brands including Winston, Camel, MEVIUS and LD. The JT Group is committed to investing in Reduced-Risk Products (RRP) and currently markets its tobacco vapor products under its Ploom brand and various e-cigarette products under its Logic brand. The Group is also present in the pharmaceutical and processed food businesses. For more information, visit <https://www.jt.com/>.*

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