

Did You Know?

Breast cancer is the most common cancer in women in both developed and developing countries¹.



Despite the widespread use of mammographic screening, its effectiveness varies with age².



To reduce morbidity and mortality alternative methods are required for early detection as well as for monitoring of cancer progression and relapse³.



Urine can contain specific biomarkers such as proteins³, as well as long non-coding RNAs⁴. Interestingly, the presence of urinary metals also has potential in breast cancer discovery⁵.

(1) <https://www.who.int/news/item/03-02-2021-breast-cancer-now-most-common-form-of-cancer-who-taking-action>

(2) Nolen BM, Lokshin AE. The advancement of biomarker-based diagnostic tools for ovarian, breast, and pancreatic cancer through the use of urine as an analytical biofluid. *Int J Biol Markers*. 2011 Jul-Sep. PubMed PMID: 21928247.

(3) Beretov J, Wasinger VC, Millar EK, Schwartz P, Graham PH, Li Y. Proteomic Analysis of Urine to Identify Breast Cancer Biomarker Candidates Using a Label-Free LC-MS/MS Approach. *PLoS One*. 2015 Nov. PMID: 26544852.

(4) Chandra Gupta S, Nandan Tripathi Y. Potential of long non-coding RNAs in cancer patients: From biomarkers to therapeutic targets. *Int J Cancer*. 2017 May 1 PMID: 27925173.

(5) Burton C, Dan Y, Donovan A, Liu K, Shi H, Ma Y, Bosnak CP. Urinary metallomics as a novel biomarker discovery platform: Breast cancer as a case study. *Clin Chim Acta*. 2016 Jan 15. PMID: 26585752.