



# Tumour Tissue Repository

*The Tumour Tissue Repository (TTR) is a provincial resource to support translational cancer research at the BC Cancer Agency, across Canada and internationally.*

## TTR Supported Research

### Understanding the p53 pathways in colon and non-small cell lung cancer

TTR biospecimens have contributed to two recent studies that investigated the over-expression of two genes in colon and non-small cell lung cancer (NSCLC) and their impact on the p53 tumour suppressor protein, which normally regulates cell cycle and prevents cancer progression.

**Scientific summary:** The first study examined the upregulation of Nucleophosmin 1 in colon cancer by analysing normal colon, adenoma and colorectal cancer samples. The second study analysed NSCLC specimens to matched normal tissue and identified an oncogene, YEATS4, that is overexpressed in ~20% of the NSCLC specimens examined. Both upregulation and overexpression of these two genes resulted in negative regulation of p53 and therefore decrease in cell cycle arrest, increase in tumour growth, as well as increased resistance to some types of chemotherapy.

**Lay summary:** The p53 gene is the most commonly mutated gene in human cancers and is known to be a master switch in controlling cell growth. Understanding the circuit wiring that controls p53 will help in developing new therapies and overcoming resistance to existing therapies.

**Nucleophosmin 1, upregulated in adenomas and cancers of the colon, inhibits p53-mediated cellular senescence.** Wong, JC et al. *Int. J. Cancer.* 2013 Oct 1; 133 (7):1567-1577. PMID: 23536448.

**YEATS4 is a novel oncogene amplified in non-small cell lung cancer that regulates the p53 pathway.** Pikor LA et al. *Cancer Res.* 2013 Dec 15; 73 (24): 7301-7312. PMID: 24170126.

*The TTR acknowledges the continued support and generosity of the patients, surgeons, anatomical pathologists, their clinical and administrative groups, and the hospital personnel in Victoria and Nainamo.*

Dr. Peter Watson, TTR Director

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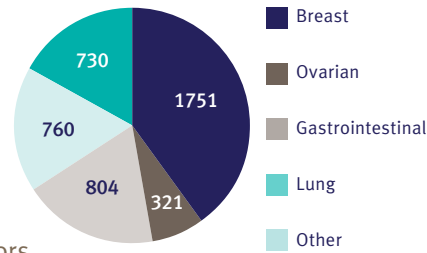
## Accrual Update



TTR continues to accrue tissues from all different cancer types, with 92% of referred patients agreeing to participate. Patient participation is the critical fuel needed for research, leading to better treatment and care.

To date, the TTR has 4366 consented donors.

Consented Donors by Cancer Type



## Provincial and National Initiatives

The TTR continues to support the PREDICT (Personal Response Determinants in Cancer Therapy) project which is now operating at both the Vancouver Island Centre and the Centre for the Southern Interior. PREDICT is a provincial resource of blood biospecimens to support translational cancer research. It has reached its 10,000th participant in March. For more information on PREDICT, visit: [www.bccrc.ca/dept/predict](http://www.bccrc.ca/dept/predict)

## Biobank Certification

The TTR is certified by the Canadian Tumour Repository Network (CTRNet) Biobank Certification Program. The TTR continues to contribute to the development of the program and the Biobank Resource Centre (BRC) which provides services and tools to support certification. Recently the TTR assisted the BRC with consulting services for the set up of the BC Children's and Women's institutional biobank.

To learn more about biobank certification visit the Biobank Resource Centre at: [www.biobanking.org](http://www.biobanking.org)

## Biobanking-related Publications

**A framework for biobank sustainability.** Watson PH, et al., *Biopreserv Biobank*. 2014 Feb;12(1):60-68. PMID: 24620771.

**Impact of a 'Permission to Contact' (PTC) platform on biobank enrolment and efficiency.** LeBlanc J, et al., *Biopreserv Biobank*. 2013;11(3):144-148.

*Thank you to our funders, supporters and affiliated organizations*



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