

## New Research Explores Aneuploidy in Children's and Young People's Cancers

Wei Zhang\*

*Department of Molecular Genetics, University of Toronto, Canada*

### EDITORIAL NOTE

Transporting basic research into the real survives of children in the clinic has been a driving force for traveling chromosomal irregularities in young people's and children's cancers.

Alongside her fellow Newcastle University-based collaborators molecular one of the cell biologist and pediatric one of the oncologist research aims to understand the mechanisms that cause aneuploidies in children's and young people's cancers. Not only to gain an understanding of how they lead to the disease but also, ultimately, to classify potential therapeutic opportunities, which if applied early enough, may prevent some cancers from developing.

Chromosomal aberrations were one of the early features described in cancer cells, but whether aneuploidy a deviation in the number of chromosomes is a cause or consequence of the disease, has long been debated.

Its chicken or egg, isn't it teases Christine. I think aneuploidy gives rise to cancer, and that something gives rise to aneuploidy. The question is, really: is there a pre-disposing factor that initiates aneuploidy? That's what we are looking for in this work."

One of the experiment in acute lymphoblastic leukaemia (ALL) and Steve Clifford's expertise in medulloblastoma both

characterized by aneuploidy. One of the mitotic control expert, is entering the pediatric oncology field for the first time provide essential insight into the causes of aneuploidies, in particular of chromosome 21 (ALL) and chromosome 7 (medulloblastoma). The first order of business will be to identify any genetic factors that confer a predisposition to chromosomal mis-segregation an error in cell division that may provide the genomic link to the cause of aneuploidy. Key to this, says Christine, is an extensive database of sequenced patient samples. They collected large data sets from genomic studies, through working closely with who are contributing their data. Mining these data will allow us to drill down on some predisposing factors that we can test. Once the team have recognized any predisposing genomic links to aneuploidy, they plan to examine what effect they have on cell division in cultured cells a bound Christine is clearly excited about: Rather than just looking for possible predisposing factors, we are going further by observing the differences this makes to cell division, which I don't think anyone has done before.

Simple in theory, but there are challenges with this approach. Least of which, says is the fact that cancer biology is rarely neat and tidy. We don't think it's a single defective gene on chromosome 21—rather a combination but we don't know which combination, so if we can take three or four genes and insert them into cells, we can observe how the cells behave."

---

**Correspondence to:** Wei Zhang, Department of Molecular Genetics, University of Toronto, Canada. E-mail: zhang.wei@gmail.com

**Received:** March 2, 2021; **Accepted:** March 16, 2021; **Published:** March 24, 2021

**Citation:** Zhang W (2021) New Research Explores Aneuploidy in Children's and Young People's Cancers. J Cell Signal. 06:223.

**Copyright:** © 2021 Zhang W. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

---