# Exploiting genomic instability as an Achilles' heel in cancer

Guerrero Llobet, Sergi

*DOI:*
10.33612/diss.168484998

1. Treating cancer cells that display high levels of replication stress with inhibitors of the checkpoint kinases ATR or WEE1 resembles removing the brakes from a Formula 1 car. (This thesis)

2. Among breast cancer subgroups, triple-negative breast cancers display the highest levels of replication stress, which explains their genomic instability and ability to develop resistance to therapy. (This thesis, Christina Curtis et al, Nature, 2012 and Cancer Genome Atlas Network, Nature, 2012)

3. The accumulation of DNA lesions induced by replication stress leads to mitotic segregation defects and compromises genome stability. (This thesis)

4. When CCNE1 is amplified and TP53 is mutated, the integrity of the genome is no longer safeguarded. (This thesis)

5. Overexpression of Cdc25A, Cyclin E1 and c-Myc slow down the speed of the DNA duplication, which relies on the usage of new replication origins to complete the process. (This thesis and Macharet et al, Nature, 2017)

6. Although replication stress has been studied for decades and is widely recognized as a significant source for genome stability and cell survival, there is no single unifying description of this phenomenon, or even a clear set of cellular markers that unambiguously characterize this state. (Michelle Zeman and Karlene Cimprich, Nature Cell Biology,2014)

7. Replication stress and the resulting genomic instability are prominent early driving forces of cancer development (Bester et al, Cell, 2011)

8. Even in the current era when research is supposed to be data-driven, ideology still tends to corrupt and absolute ideology corrupts absolutely. (adapted from Robert Nisbet)

9. It's bad bile. It's bad habits. It's bad bosses. It's bad genes. (Mel Greaves, Cancer: The Evolutionary Legacy, 2000).

10. In the story of Patroclus, no one survives, not even Achilles, who was nearly a god. Patroclus resembled him; they wore the same armor. (Louise Glück)