

Proteomics and Functional Investigation of SUMO and Ubiquitin E3 ligases

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Stellingen Behorend bij het proefschrift getiteld

Proteomics and functional investigation of SUMO and ubiquitin E3 ligases

- 1. TULIP2 methodology allows the identification of E3 and E2 ubiquitination substrates (this thesis).
- 2. Overexpression of SUMO E3 ligases leads to SUMO2 depletion within the cell (this thesis).
- 3. BRCA1/BARD1 E3 ligase is dispensable for Homologous Recombination pathway (this thesis | Nakamura et al., 2019, Nat Cell Biol | Krais et al., 2021, Nat Commun | Sherker et al., 2021, EMBO Rep).
- 4. BRCA1/BARD1 ubiquitinates PCNA on lysine 165 in RPE-1 cells (this thesis).
- 5. Mass Spectrometry is a powerful tool that will be use regularly in the clinic for diagnosis and analysis of patient samples (e.g. MasSpec Pen) (Sans et al., 2019, Clin Chem).
- 6. One unresolved key question is how some proteins can be modified by multiple E3 ligases while others can only be modified by an exclusive E3.
- 7. Most cellular processes are regulated by either the presence or the absence of key proteins, identifying and regulating those proteins is crucial to fight diseases
- 8. In a research project, the hardest part is usually the most exciting one, asking the right questions.
- 9. An important principle of science is the observation, observe interesting things to find interesting answers. That will never change.
- 10. Investing time in thinking is undervalued.