Jan Kessler & Irina Kugler 30.03.2020

A Parasite Causing Chronic Brain Infection – All Because Of One Gene?

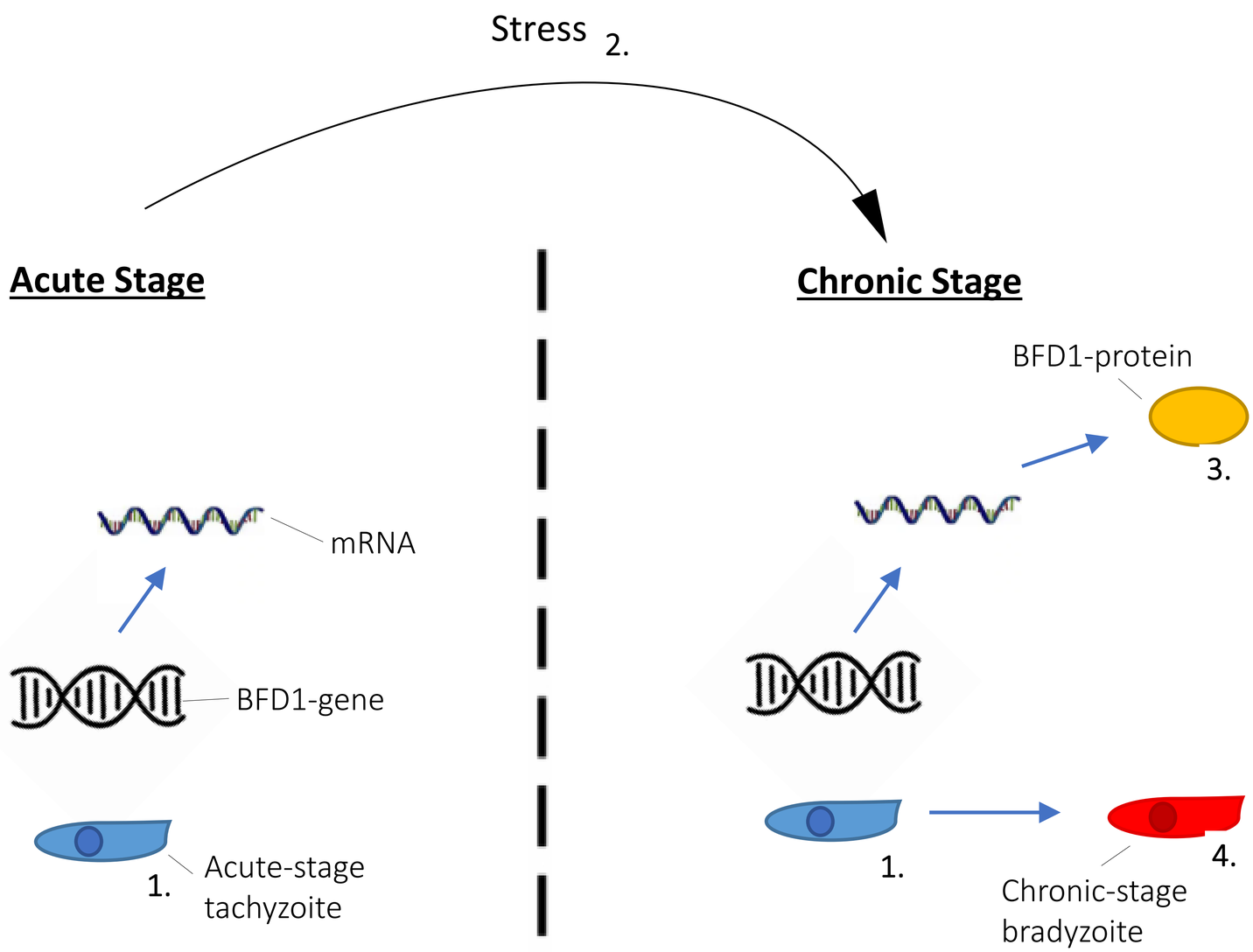
Goal of the paper: The goal of the paper is to demonstrate how one single gene controls the conversion of the parasite *Toxoplasma gondii* into a form that causes chronic brain infection.

Results:

1. Parasite in non-infectious form (acute-stage tachyzoite), harmless
2. Change into chronic stage due to stress in culture conditions (for example alkaline pH)
3. Protein called BFD1 (transcription factor, only produced in chronic stage) triggers parasite transformation from harmless to brain infecting (4.)
4. Brain infecting parasite form (chronic-stage bradyzoite), differentiated due to the protein BFD1 (2.)

->Brain infections can cause symptoms such as inflammation, mental impairments or even death.

Relevance: This discovery allows researchers to design therapies for the currently untreatable brain infection caused by T. gondii.



Original Paper: *„One gene to rule them all in a chronic brain infection”*, Eva-Maria Frickel, 02.03.2020
https://media.nature.com/original/magazine-assets/d41586-020-00564-w/d41586-020-00564-w.pdf