



## ***WAR AGAINST CANCER***

'We fought cancer....and cancer won'

**Rezistence pret ārstēšanu ar  
ionizējošo apstarošanu un ķīmijterapiju,  
ar ko cenšās bojāt vēža šūnu DNS,  
gala rezultātā nereti noved  
pie metastāzēm un slimnieka nāvi.**

**Ja vēža šūna ir noziedznieks, ir jāsaprot tā motivācija  
un nozieguma saknes**



**Motivācija – izdzīvot.**

**Saknes – evolūcija,**

**kas izstrādāja mehānismu**

**mūžīgai dzīvei**

**vienšūņos**

**Dzimumlīnija ir nemirstīga, un tiek nodota no paaudzes paaudzē dzīves ciklā**

“Here we do not have an eternal staying”

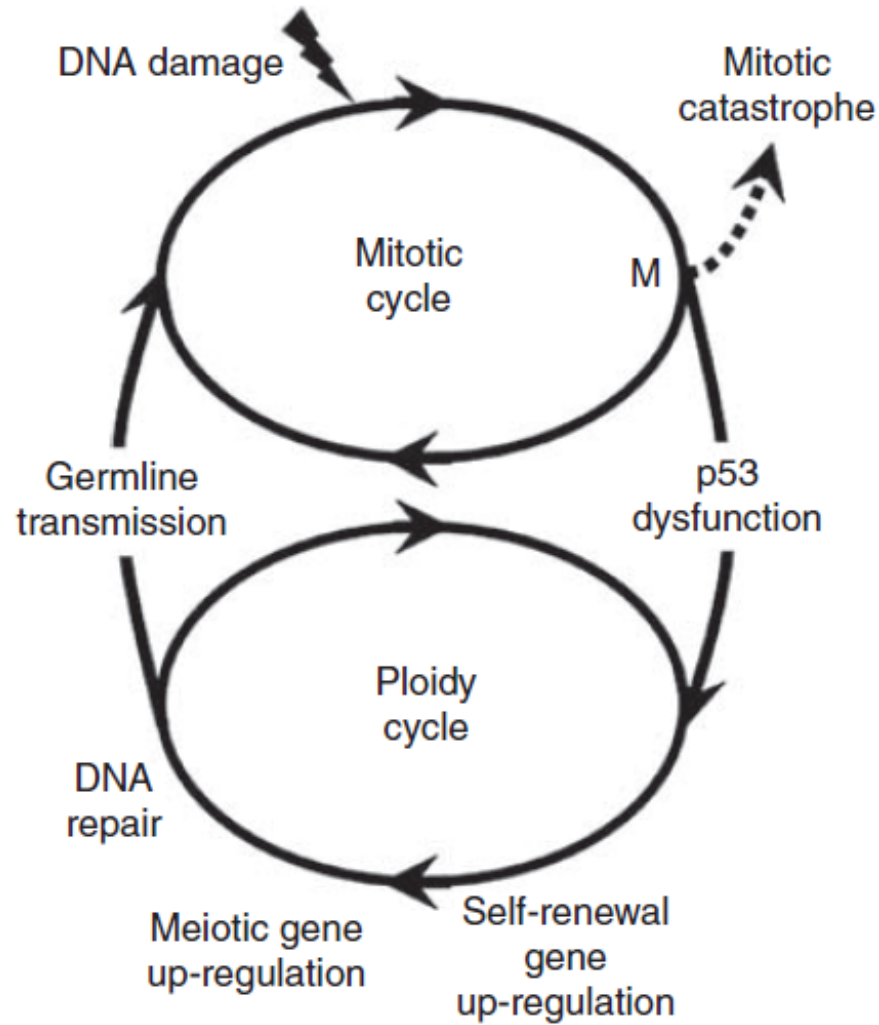


revival arts studio  
life photography

**Vēža šūnas  
ir nemirstīgas**

Weismann, A., Das Keimplasma. Eine Theorie der Vererbung. Jena, Fischer, 1892.

Cancer cell “life cycle” (Erenpreisa & Cragg, Cell Biol Int 2007; Oncogene 2010)



## > 20 eksp. raksti un apskati, 38 int conferences

1. Polyploid giant cells provide a survival mechanism for p53 mutant cells after DNA damage. (Illidge T., Cragg M., Fringe B., Olive P., Erenpreisa Je.) Cell Biol. Int., 2000, 24,621-633.
2. Release of mitotic descendants by giant cells from irradiated Burkitt lymphoma cell lines. (Erenpreisa Je., Cragg M., Fringes B., Sharakhov I., Illidge T.M.) Cell Biol. Int. 2000, 24,635-648.
3. Mitotic catastrophe and endomitosis in tumour cells: An evolutionary key to a molecular solution. (Erenpreisa Je, Kalejs M, Cragg M). Cell Biol Int, 2005, 29: 1012-1018.
4. Cancer: A matter of life-cycle? A mini-review. (Erenpreisa J and Cragg MS), Cell Biol Int 2007, 31: 1507-1510.
5. Up-regulation of the embryonic self-renewal network through reversible polyploidy in irradiated p53-mutant tumour cells. (Kristine Salmina, Eriks Jankevics, Anda Huna, Dmitry Perminov, Ilze Radovica, Tetyana Klymenko, Andrey Ivanov, Elina Jascenko, Harry Scherthan, Mark Cragg, Jekaterina Erenpreisa ) Exp Cell Res 2010 316:2099- 2112.
6. MOS, aneuploidy and the ploidy cycle of cancer cells. (Erenpreisa Je and Cragg MS) Oncogene 2010, 29:5447-5451
7. Tumor cell embryonality and the ploidy number 32n: Is it a developmental checkpoint? (Erenpreisa J, Cragg MS, Anisimov AP, Illidge TM) Cell Cycle 2011 Jun 1;10(11):1873-4.
8. DNA damage causes TP53-dependent coupling of self-renewal and senescence pathways in embryonal carcinoma cells. (Jackson TR, Salmina K, Huna A, Innashkina I, Jankevicz E, Riekstina U, Kalnina Z, Ivanovs A, Townsend PA, Cragg MS, Erenpreisa J) Cell Cycle 2013, 12: 430-41.
9. Three steps to cancer cell immortality: senescence, polyploidy and self-renewal. (Erenpreisa Je and Crag MS) Cancer Cell Int 2013 (review)

**Ekspērimētāli apstiprinājumi 2011.- 2013. – dažās neatkarīgās ārzemju laboratorijās**

# Pedalījās zinātnieki un PhD studenti no 5 valstīm



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Tom R Jackson

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→ Harry Scherthan  
Michael Hausmann

Germany

Alim P Anisimov Russia



Fiorenza Ianzini

Fiorenza Ianzini  
Michael A MacKey  
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**Hipotēze: Vēža šūnas nemirstības atjaunošana notiet, izmantojot  
aizliegtu, bet genomā saglabāto programmu -  
dzimumšūnas cikla priekštecī  
-ploiditātes ciklu, kas evolūcijas gaitā  
attīstījās dažos vienšūņos,  
lai cīnītos ar DNS bojājumiem**



**"The biggest obstacle" to a true war against cancer  
may be "the inherently conservative nature of today's  
cancer research establishments."**

**As long as that's so, "curing cancer will always  
be 10 or 20 years away."**

James Watson Jan 8 2013