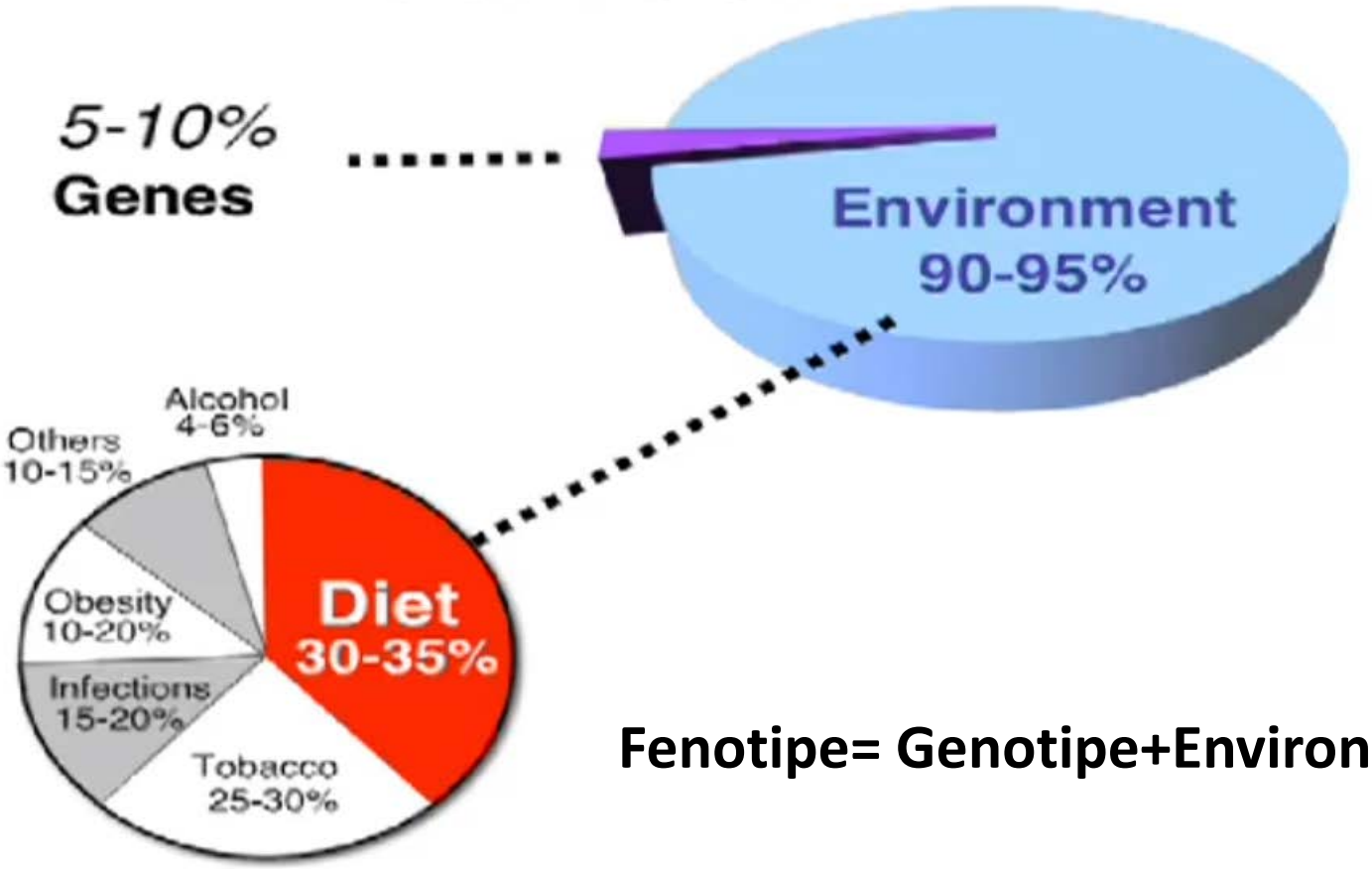
Micro environment and cancer

Ramadhan
RS Kanker Dharmais

Cancer



Fenotipe= Genotipe+Environment

Breast cancer incidence vary among the country

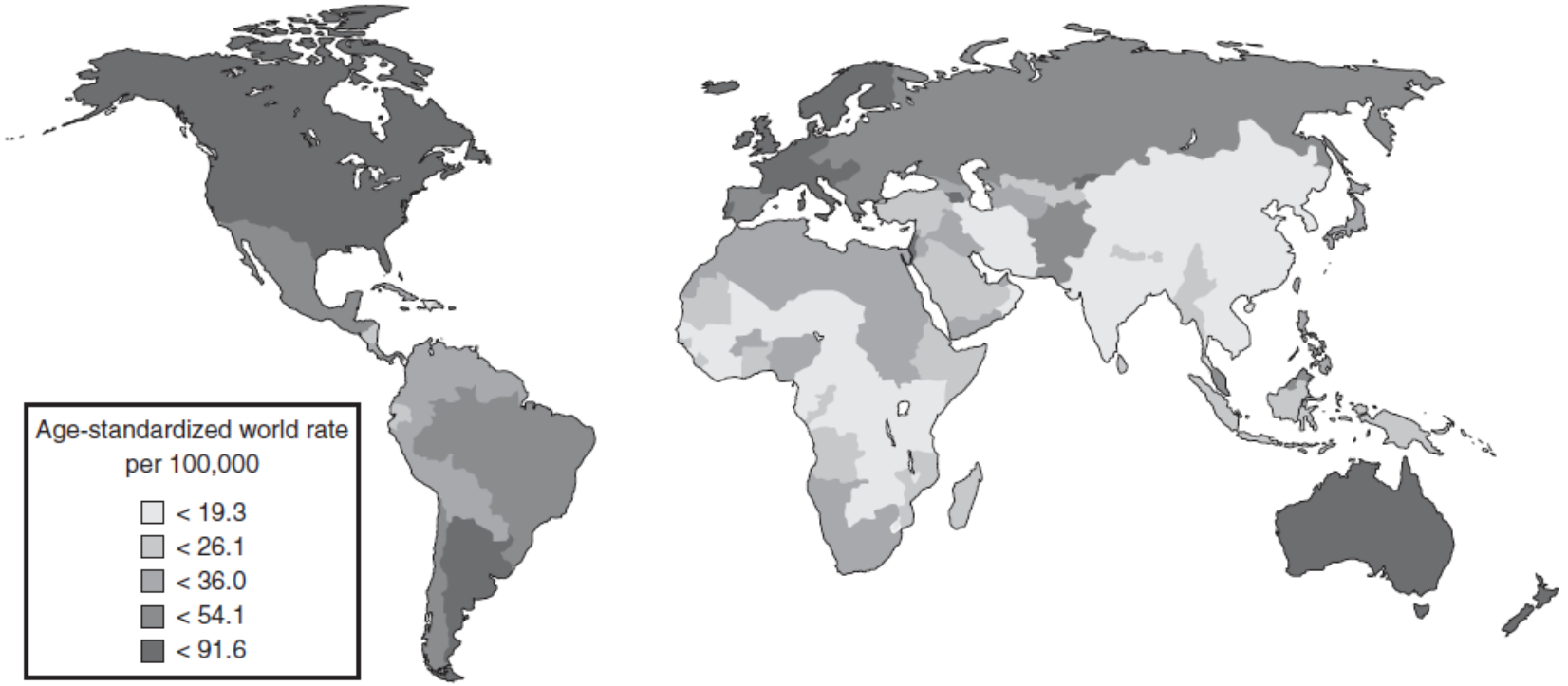
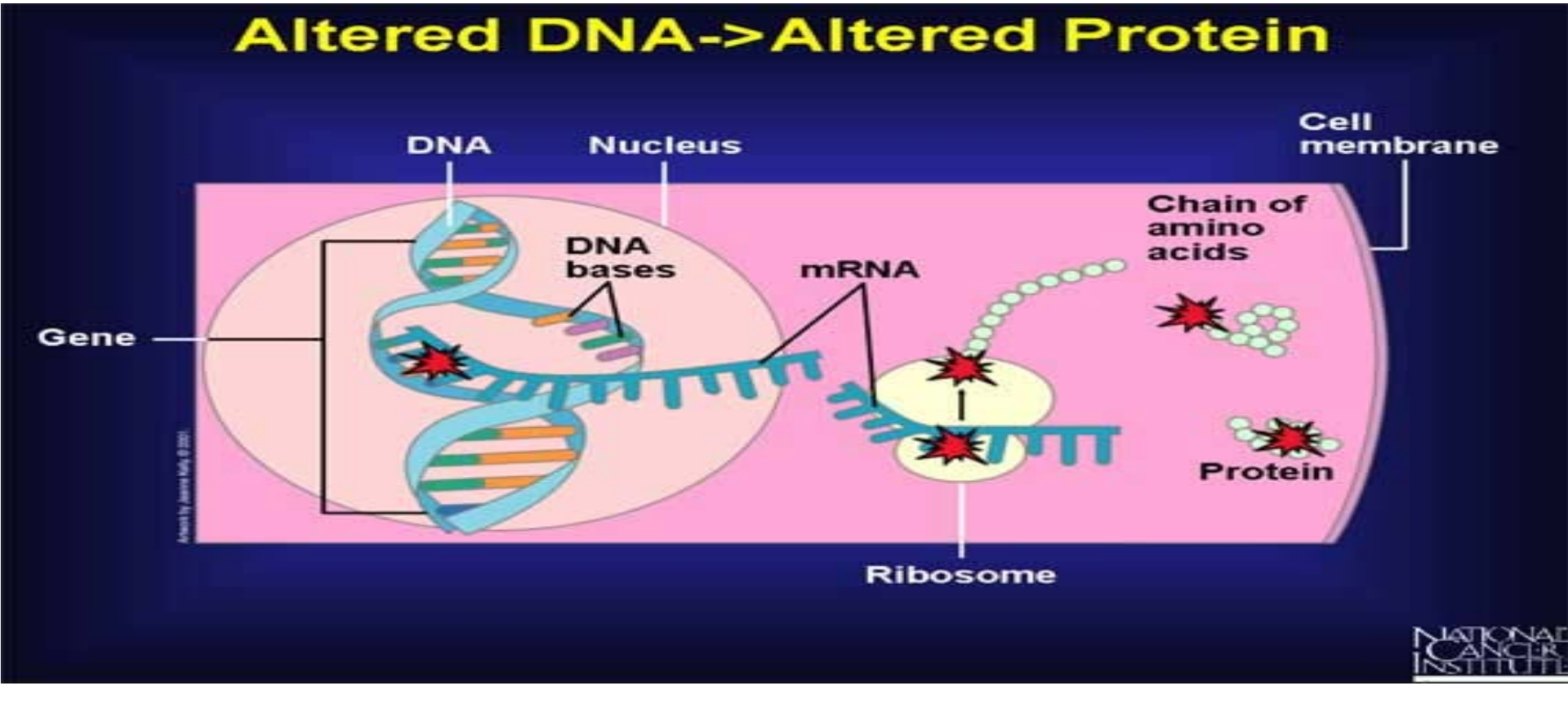
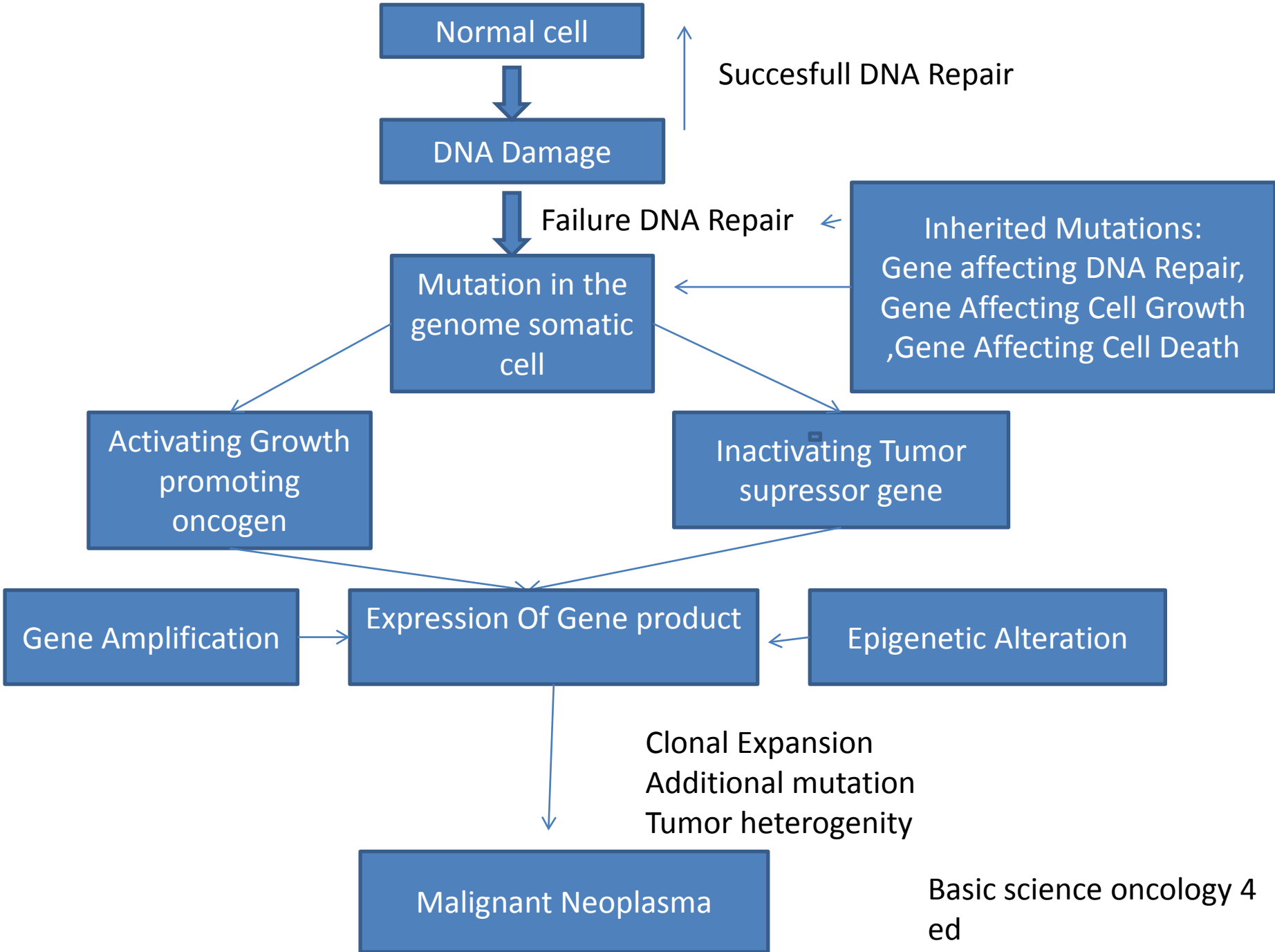


Figure 1–1 Estimated incidence by country, age-standardized by world standard population. (Data from Parkin DM. Global cancer statistics in the year 2000. Lancet Oncol 2001;2:533–543.)

Cancer Cell

- Cancer cells is Transform Cell : Function and Morphology

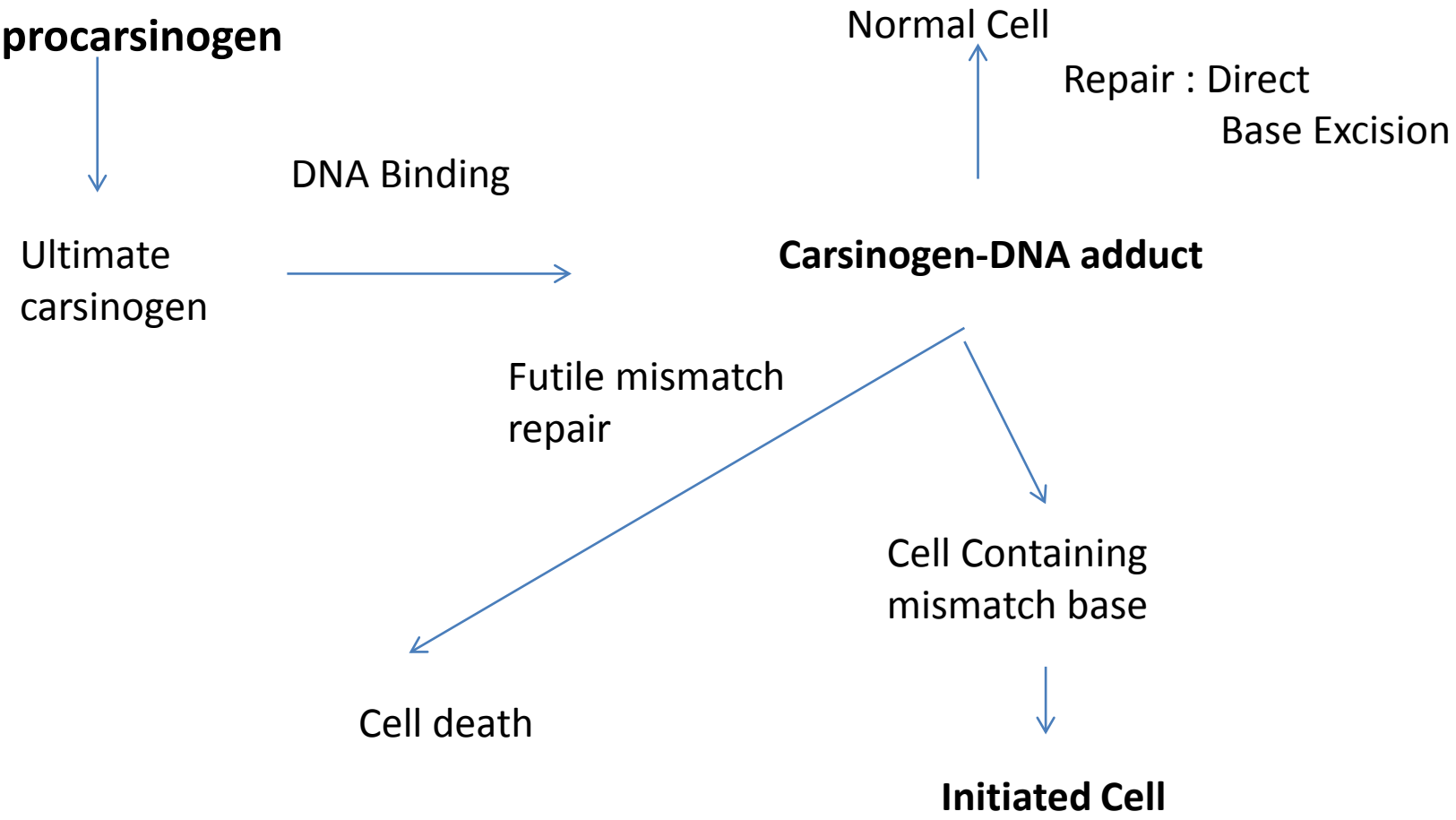




Basic science oncology 4 ed

Chemical Carsinogenesis

- **procarsinogen**

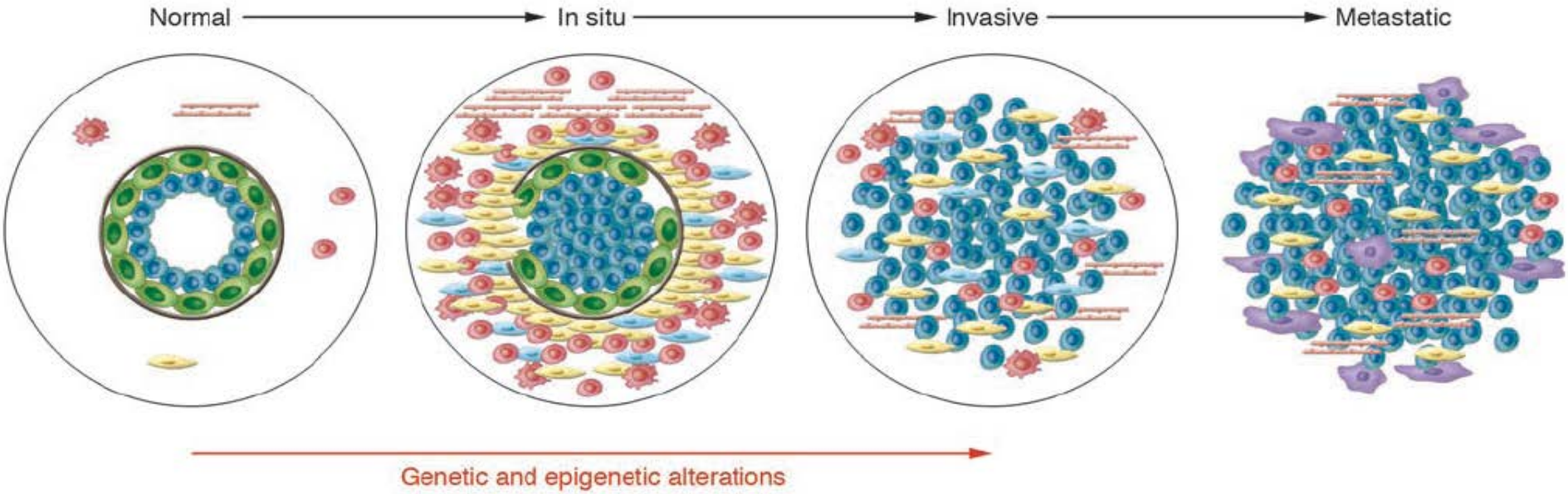


The Basic Science of Oncology. 3 rd edition

Breast cancer: origins and evolution

Kornelia Polyak

Department of Medical Oncology, Dana-Farber Cancer Institute, and Department of Medicine, Harvard Medical School and Brigham and Women's Hospital, Boston, Massachusetts, USA.



The Journal of Clinical Investigation http://www.jci.org Volume 117 Number 11 November 2007

Human Cancer Protein-Protein Interaction Network: A Structural Perspective

Gozde Kar, Attila Gursoy, Ozlem Keskin*

Center for Computational Biology and Bioinformatics and College of Engineering, Koc University, Rumeli Feneri Yolu, Sariyer Istanbul, Turkey

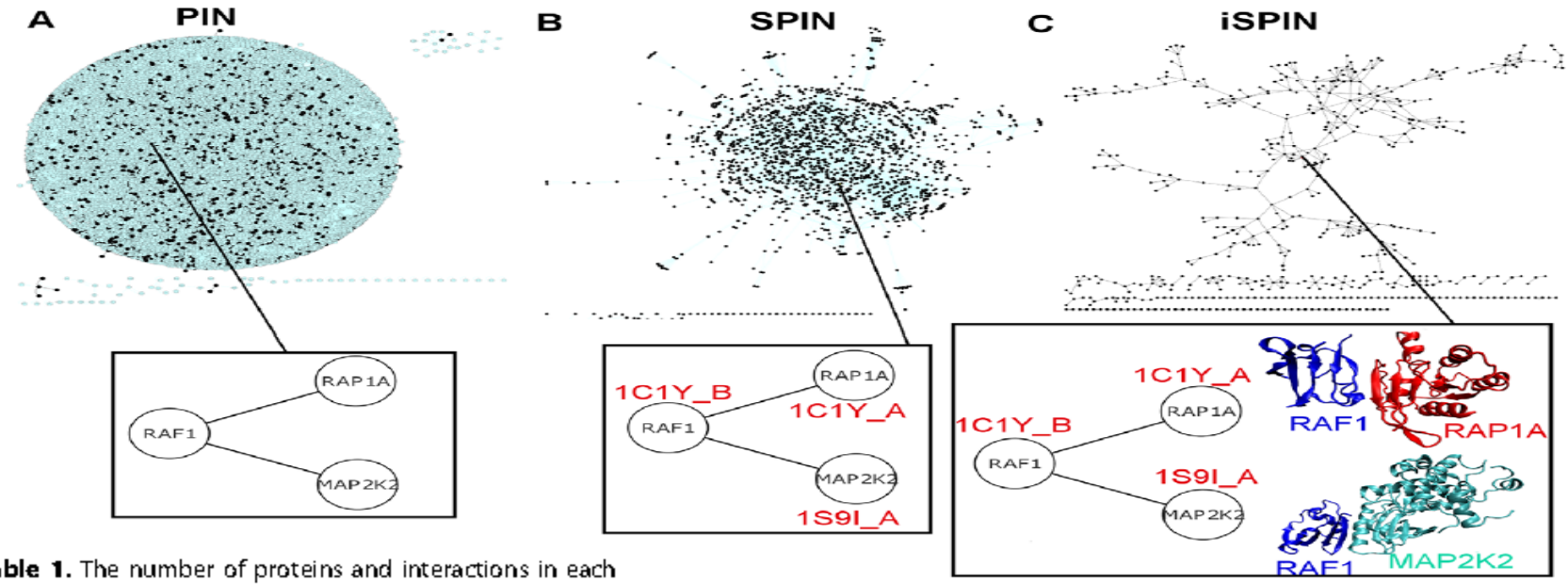


Table 1. The number of proteins and interactions in each network.

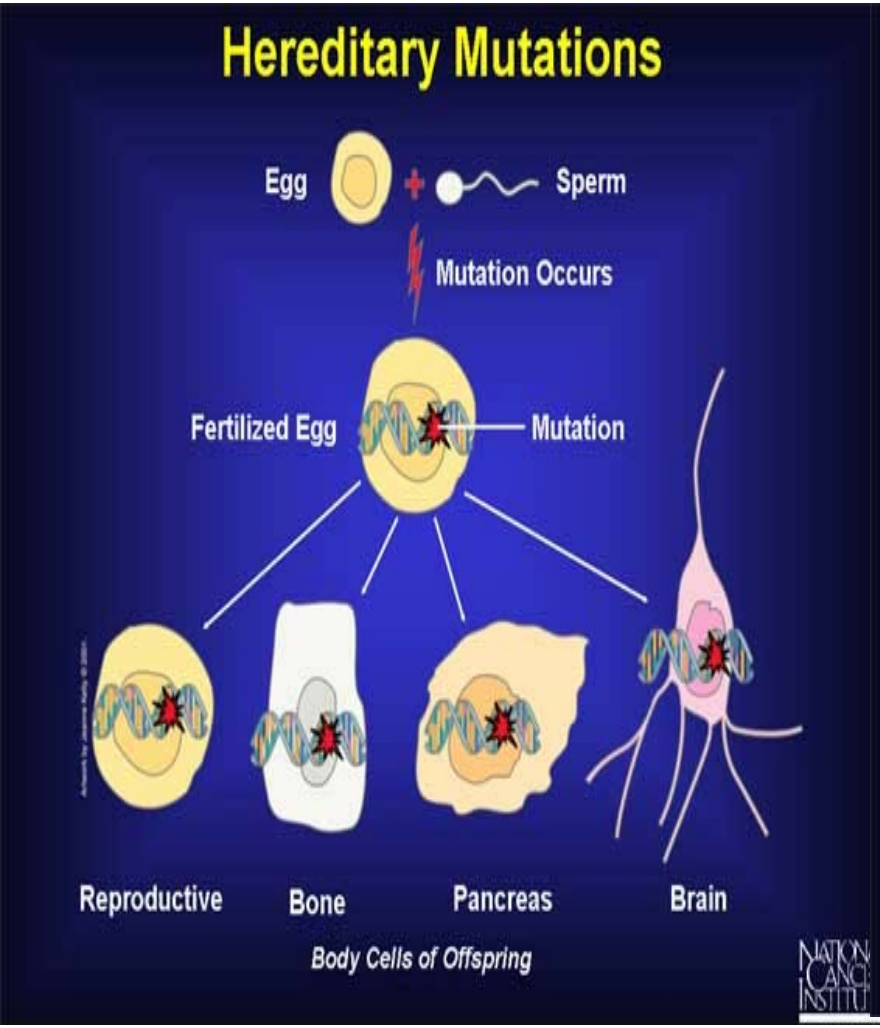
Network name	Protein	Interaction	Known complex in PDB
PIN	13584	85083	206
cPIN	8990	27413	149
SPIN	1702	5312	206
cSPIN	1303	3221	149
iSPIN	534	549	206
ciSPIN	381	363	149

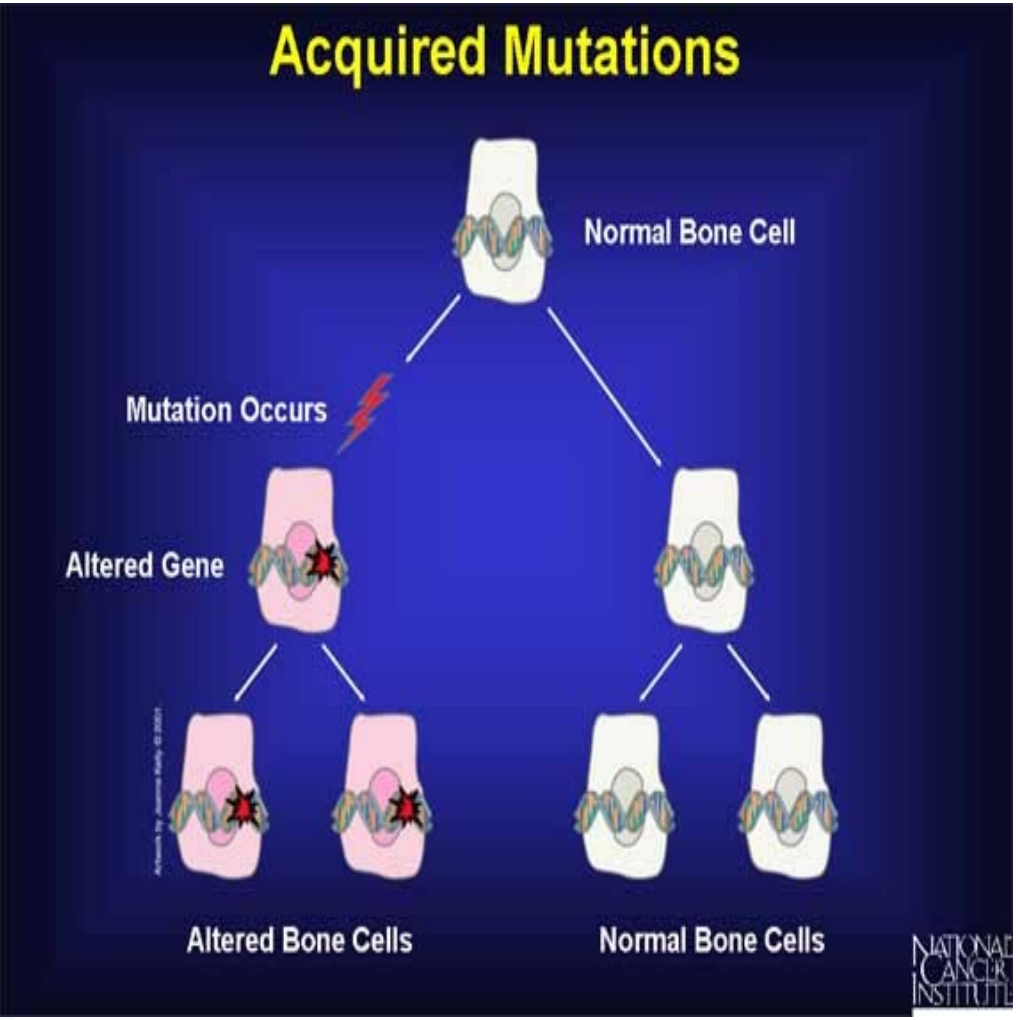
doi:10.1371/journal.pcbi.1000601.t001

Cancer proteins have smaller, more planar, less tightly packed and less hydrophobic binding sites compared to non-cancer proteins

PLOS. Desember 2009. volume 5.

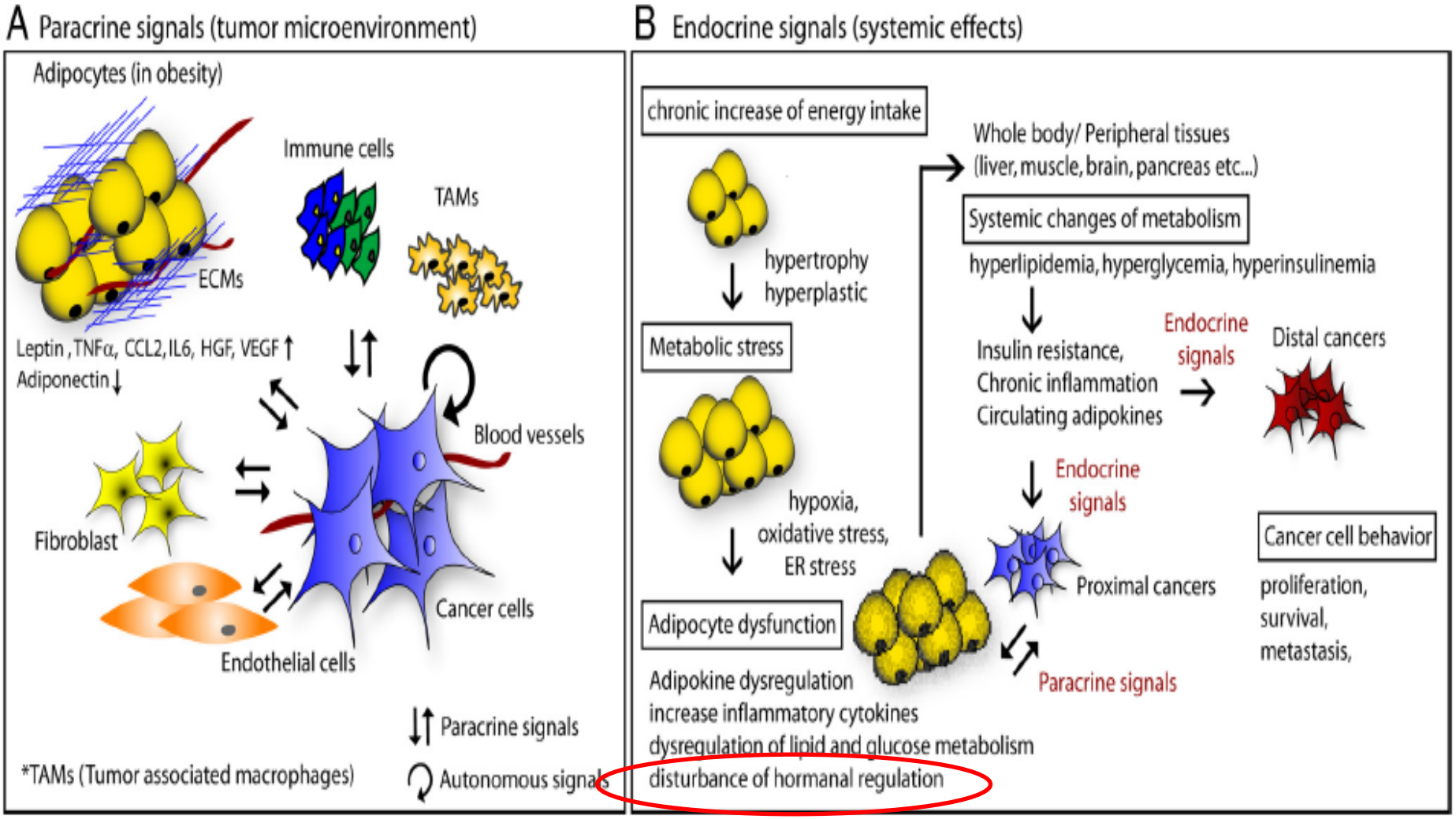
Gene alteration and tissue specific





Paracrine and Endocrine Effects of Adipose Tissue on Cancer Development and Progression

Jiyoung Park, David M. Euhus, and Philipp E. Scherer



Endocrine Reviews, August 2011, 32(4):550–570

Change the environment VS Chemotherapy

Chremotherapy VS Ovarian supression			
Study	Treatment		Result
Scottish (6)	CMF	versus Surgery	No Difference
Scandinavian(8)	CMF	versus Xrt	No Difference
Zebra (12)	CMF	versus OS	No Difference
IBSG VIII	CMF	versus OS	No Difference
GROCTA 02(47)	CMF	versus OS + Tam	No Difference
ABCSG (11)	CMF	versus OS+Tam	Better RFS fo OS+ Tam
French	CMF	versus OS+Tam	No Difference
FASG 08(48)	FEC	Versus OS+ Tam	No Difference
GABG (14)	CMF	versus Goserilie	No Difference
Wallwiener and co workers(15)	CMF	versus Leuproline	No Difference

Breast Cancer Res 2005, **7**:70-76 (DOI 10.1186/bcr1002)

Breast Cancer Risk Factor

- Age >40
- Related to hormonal activity:
- 1. Early menarche
- 2. Nulli para
- 3. Contraception pill/HRT
- 4. Physical activity
- 5. Family history
- Demography

Estrogen level japanese and america white

Table II Serum oestrogen and sex hormone binding globulin (SHBG) concentration of Japanese and American white subjects[a]

Variable	*Japanese*	*American whites*	*% difference*[b]	*P-value*[c]
Oestrone (pmol l^{-1})	83.2 (78.0, 88.4)	122.4 (109.5, 136.5)	47%	<0.0001
Oestradiol[d] (pmol l^{-1})	17.4 (16.3, 18.6)	23.8 (21.4, 26.6)	36%	<0.0001
Oestradiol[e] (pmol l^{-1})	22.4 (21.0, 23.9)	26.8 (23.7, 30.4)	20%	0.012
SHBG (nmol l^{-1})	58.6 (53.4, 64.1)	55.1 (45.8, 66.2)	− 6%	0.54

Table III Serum oestrogen and sex hormone binding globulin (SHBG) concentration of Japanese and American white subjects[a] adjusted for weight

Variable	*Japanese*	*American whites*	*% difference*[b]	*P-value*[c]
Oestrone (pmol l^{-1})	82.8	118.7	43%	<0.0001
Oestradiol[d] (pmol l^{-1})	17.8	22.6	27%	0.0009
Oestradiol[e] (pmol l^{-1})	22.7	26.3	16%	0.024
SHBG (nmol l^{-1})	56.9	59.3	+ 4%	0.64

Br. J. Cancer (1990), **62**, 451–453

Breast cancer incidence vary among the country

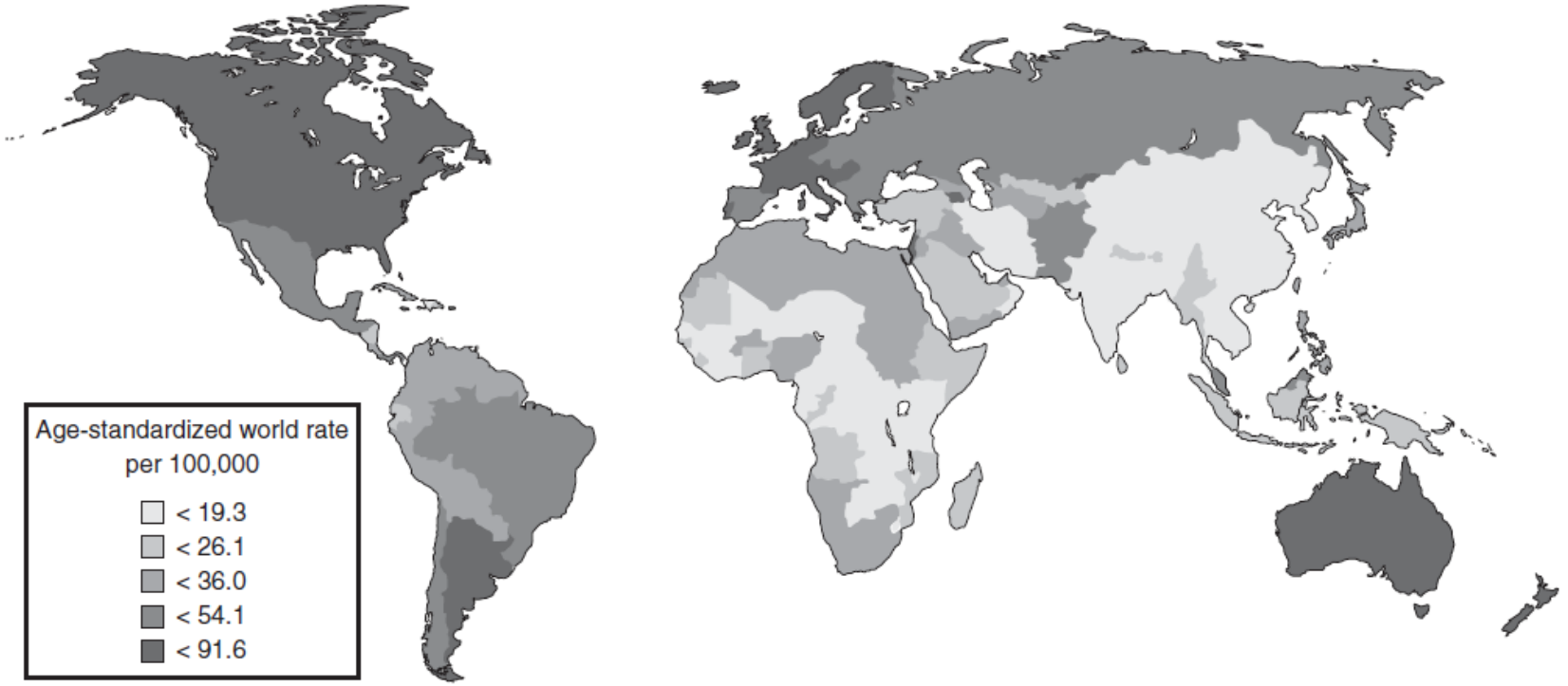
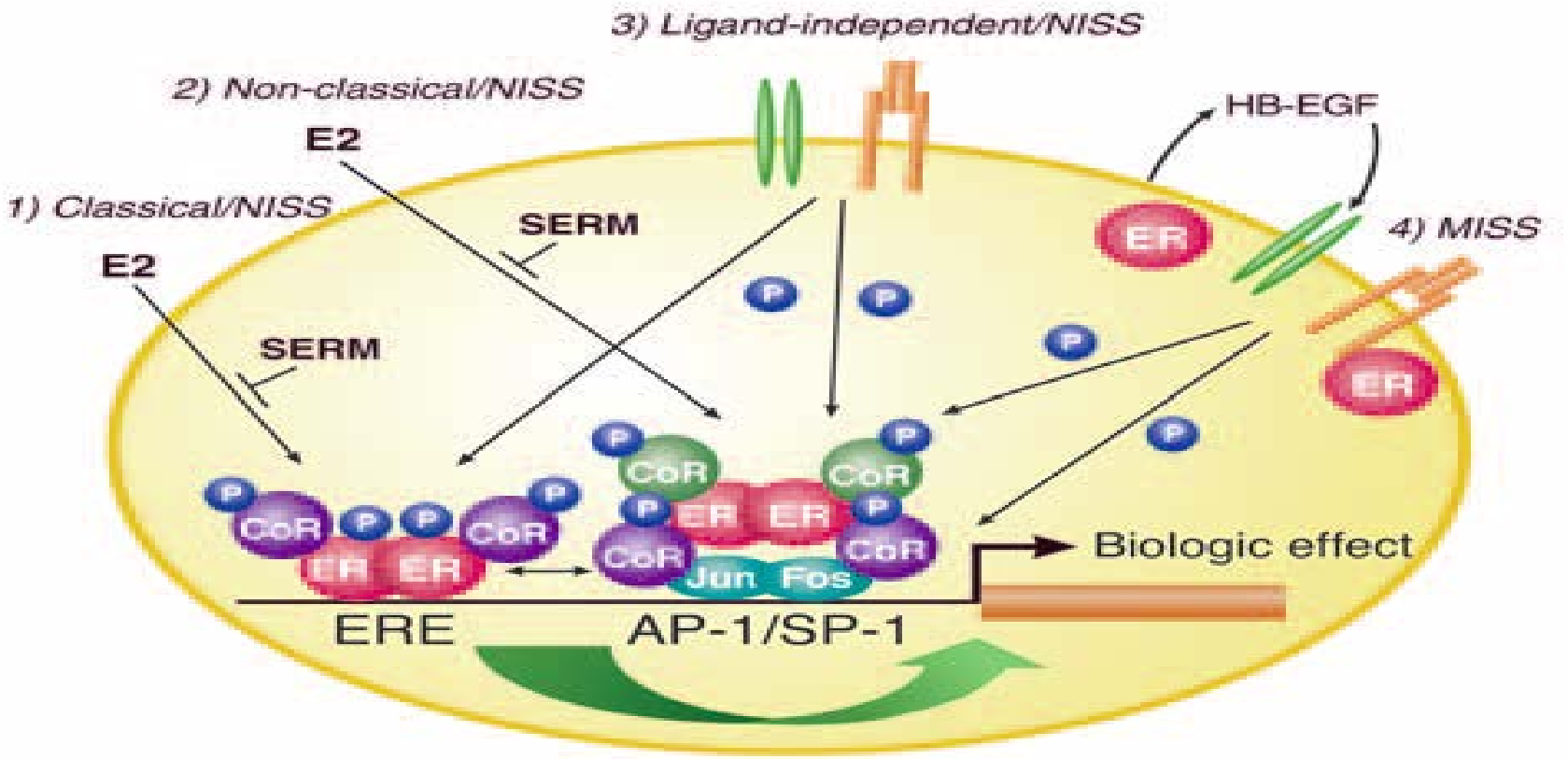


Figure 1–1 Estimated incidence by country, age-standardized by world standard population. (Data from Parkin DM. Global cancer statistics in the year 2000. Lancet Oncol 2001;2:533–543.)

Estrogen and breast cancer progression



Biologi effect :up and down 700 gen in breast cancer progression follow 1300 others gen, involved in proliferation,invasive,metastasis, growth, differensiation, apoptosis,angiogenesis and epigenetic process.

ER Re-expression and Re-sensitization to Endocrine Therapies in ER-negative Breast Cancers

Joeli A. Brinkman · Dorraya El-Ashry

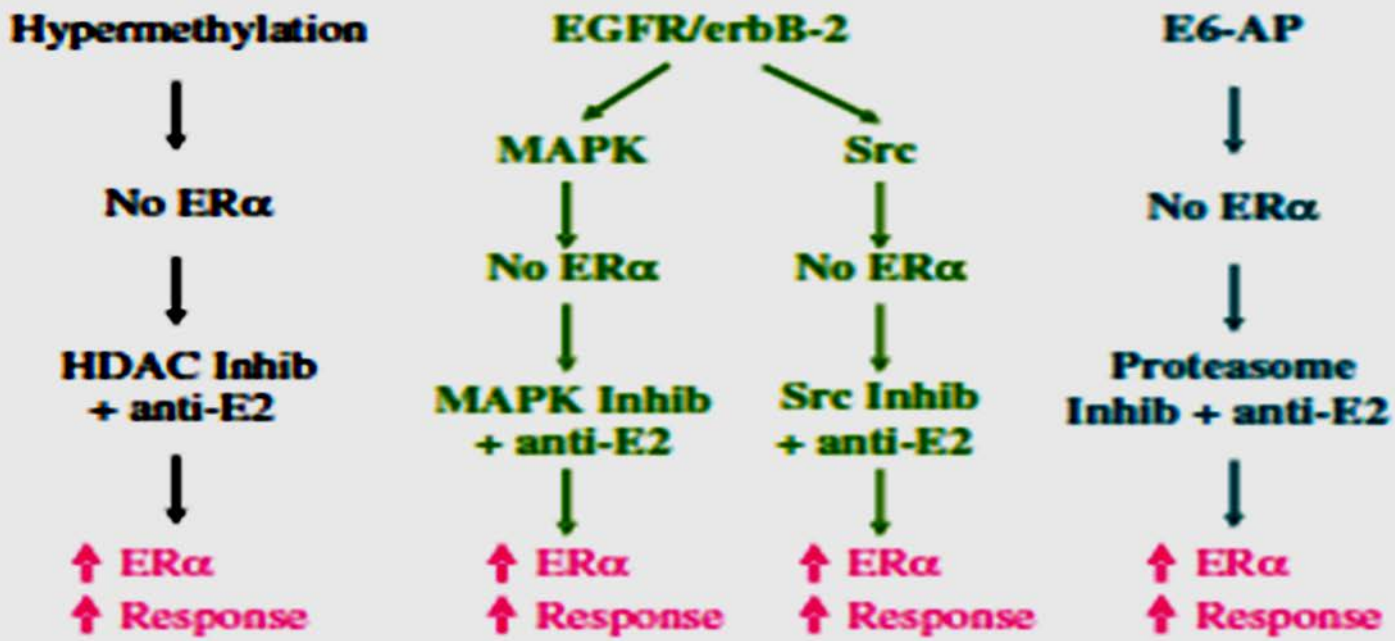


Figure 3 Subsets of ERα– breast cancer and possible therapeutics. Representative model of ERα– breast cancer subsets with potential mechanisms and therapies for each.

J Mammary Gland Biol Neoplasia (2009) 14 ; 67-68

Research article

Open Access

Estrogen receptor-α polymorphism in a Taiwanese clinical breast cancer population: a case–control study

Wei-Chiang Hsiao[1], Kung-Chia Young[2], Shoei-Loong Lin[3] and Pin-Wen Lin[1]

- The same three SNPs reported in Western studies were found in the Taiwanese population studied, but at different frequencies than in Western studies. Small but statistically significant correlations were found between allele distribution, and individual and familial manifestation of breast cancer.

Breast cancer research, vol 6,no 3,2004

Diverse Associations between *ESR1* Polymorphism and Breast Cancer Development and Progression

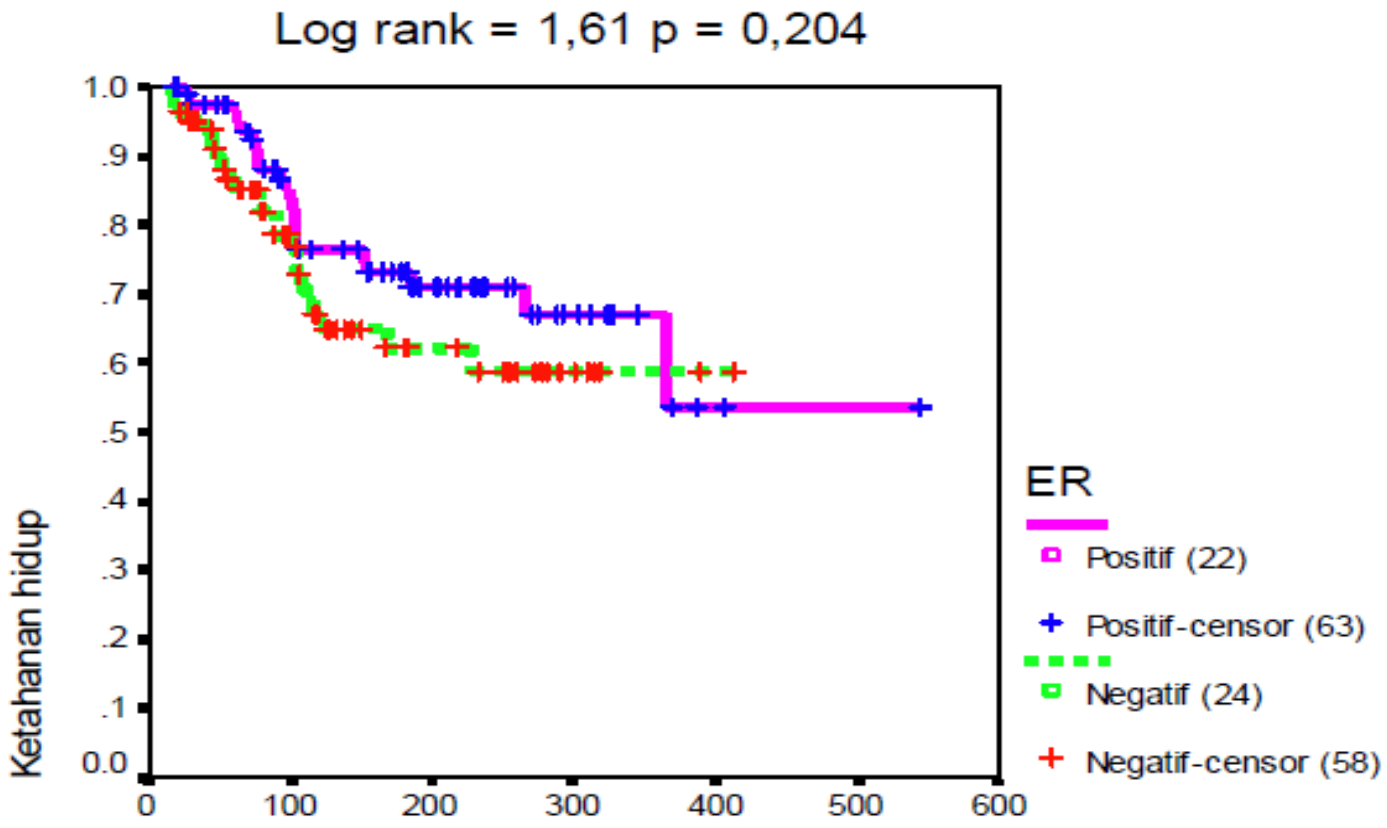
Shian-ling Ding, Jyh-Cherng Yu, Shou-Tung Chen, et al.

Clin Cancer Res 2010;16:3473-3484. Published OnlineFirst June 22, 2010.

- Conclusion The differences between the important ESR1 SNPs identified in chinese women in this study and those identified in studies on western women with breast cancer suggest different roles of ER α in this populations. Clin Can Res 16(13); 347-384.2010

ER as prognostic factor

a. Pengaruh reseptor estrogen (ER) terhadap ketahanan hidup



Disertasi : Teguh Aryandono(Jogja,2006)

Take home Message

- Ada perbedaan sifat biologi kanker payudara antara orang asia dan kaukasia
- Diperlukan penelitian multisenter agar didapatkan data akurat tentang latar belakang biologi molekular untuk penduduk indonesia
- Mungkin kita harus mengevaluasi dan mencari jenis pengobatan apa yang cocok spesifik untuk populasi kita

Terima kasih