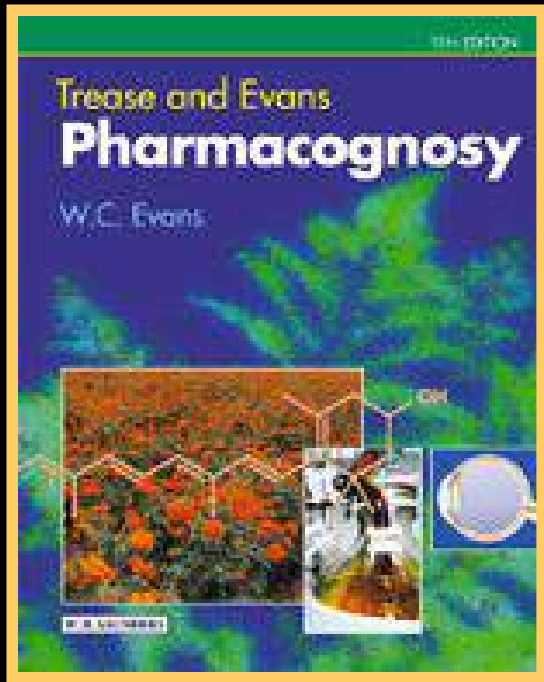


PHYTOMEDICINES

MULTITARGET THERAPEUTIC APPROACH

RECENT ADVANCEMENTS

(Herbal medicine now a modern science)



- Standardized extracts instead of raw herbs
- Modern manufacturing techniques & quality control
- Scientific validation
- Standard shelf life & dosage guidelines

All: 3855	Clinical Trial: 163	Free full text: 443	Full text: 2240	Items with Abstracts: 3307	Review: 589
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- 1: [Ye M, Liu SH, Jiang Z, Lee Y, Tilton R, Cheng YC.](#) Related Articles
Liquid chromatography/mass spectrometry analysis of PHY906, a Chinese medicine formulation for cancer therapy. Rapid Commun Mass Spectrom. 2007 Oct 18;21(22):3593-3607 [Epub ahead of print] PMID: 17944003 [PubMed - as supplied by publisher]
- 2: [Agarwal V, Abhijnhan A, Raviraj P.](#) Related Articles

Search PubMed for curcumin Go Clear Save Search

Limits Preview/Index History Clipboard Details

Display Summary Show 20 Sort By Send to

All: 2077	Clinical Trial: 28	Free full text: 440	Full text: 1672	Items with Abstracts: 1988	Review: 183
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Items 1 - 20 of 2077 Page 1 of 104 Next

1: Narlawar R, Pickhardt M, Leuchtenberger S, Baumann K, Krause S, Dyrks T, Weggen S, Mandelkow E, Schmidt B. Related Articles

Curcumin-Derived Pyrazoles and Isoxazoles: Swiss Army Knives or Blunt Tools for Alzheimer's Disease? ChemMedChem. 2007 Oct 17; [Epub ahead of print] PMID: 17943713 [PubMed - as supplied by publisher]

2: Wang R, Xu Y, Wu HL, Li YB, Li YH, Guo JB, Li XJ. Related Articles



Salix alba

The science behind Aspirin

New York Times Magazine
aptly called it in 1966:

*“The wonder drug nobody
understands.”*

Aspirin’s antiplatelet effect
was observed in 1967.

*“An aspirin a day keeps
heart attacks away.”*



The blooming of the French lilac

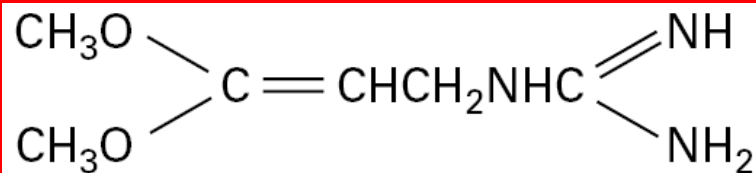
Lee A. Witters

Endocrine-Metabolism Division, Departments of Medicine and Biochemistry,
 Dartmouth Medical School, Remsen 322, Hanover, New Hampshire 03755-3833, USA.
 Phone: (603) 650-1909; Fax: (603) 650-1727; E-mail: lee.a.witters@dartmouth.edu.

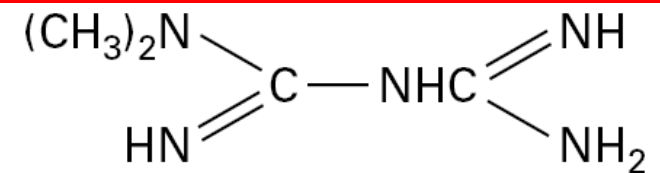
J. Clin. Invest. 108:1105–1107 (2001). DOI:10.1172/JCI200114178.

The plant's long-recognized hypoglycemic properties led eventually to the synthesis of the biguanide compound metformin.

Galega officinalis



Galegine



Metformin

Effects of an extract from *Phyllanthus niruri* on hepatitis B and woodchuck hepatitis viruses: *In vitro* and *in vivo* studies

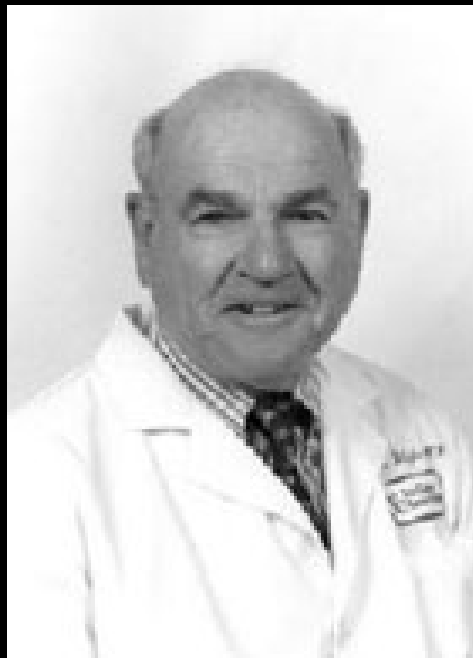
(antiviral agent/*Marmota monax*/DNA polymerase/hepatitis B surface antigen/woodchuck hepatitis surface antigen)

P. S. VENKATESWARAN*, I. MILLMAN, AND B. S. BLUMBERG

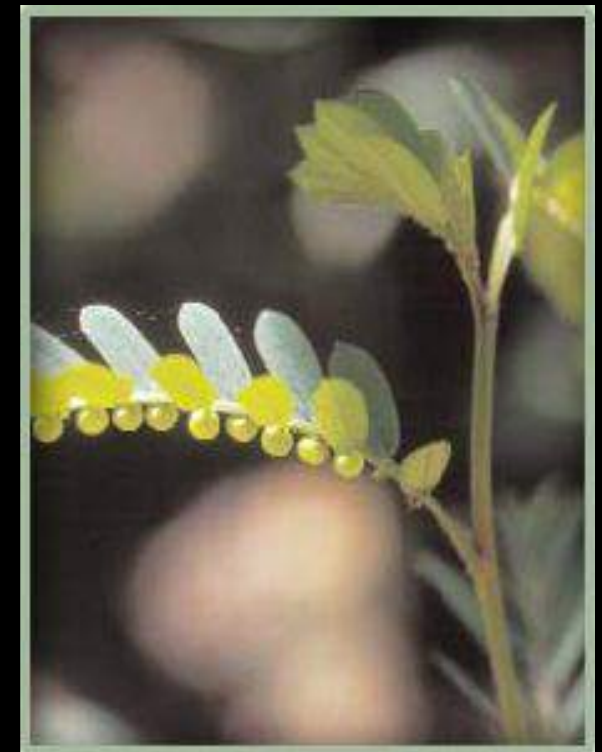
Fox Chase Cancer Center, Philadelphia, PA 19111

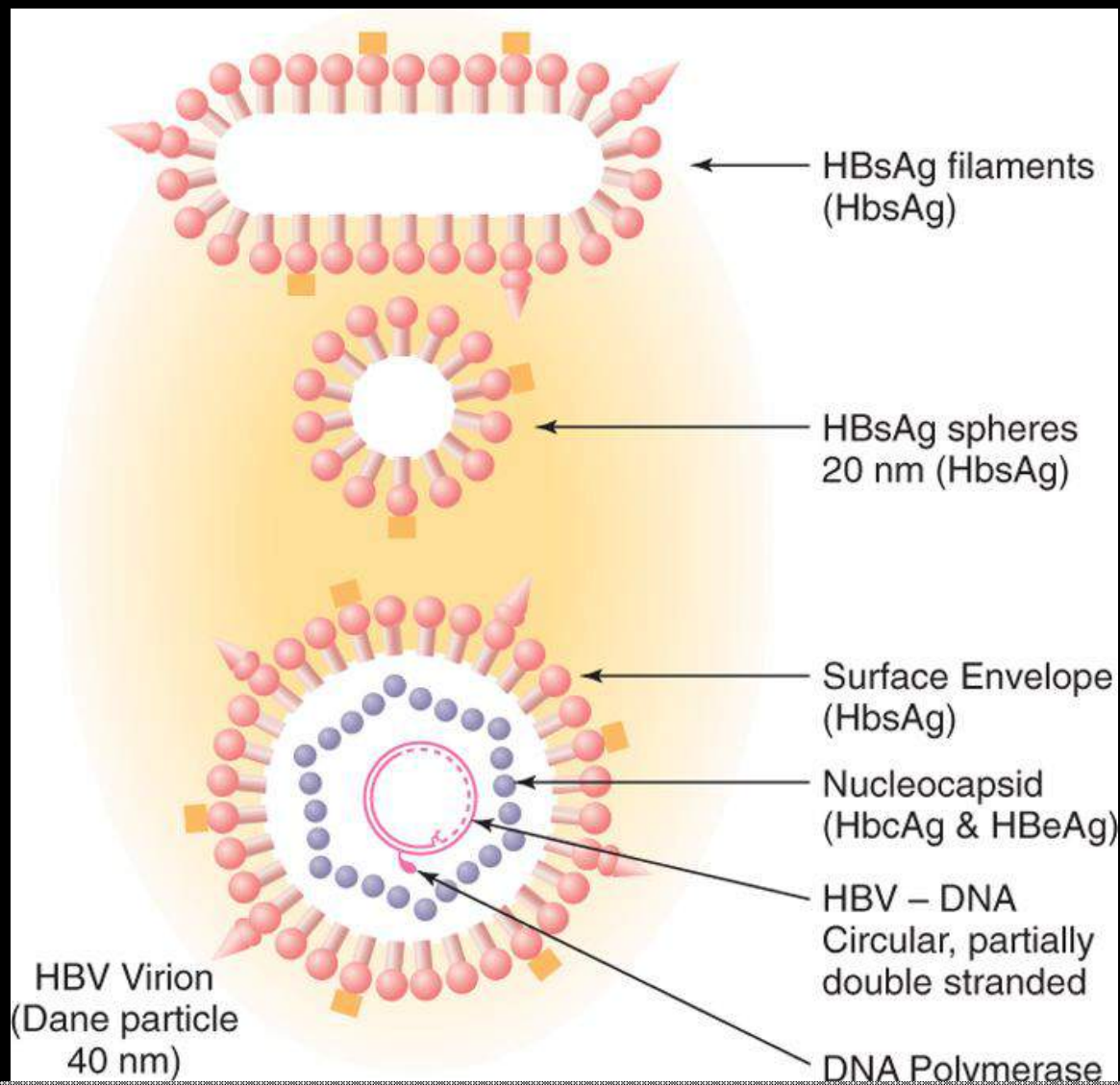
Contributed by B. S. Blumberg, September 18, 1986

Proc. Nati. Acad. Sci. USA Vol. 84, pp. 274-278, January 1987 Medical Sciences



Nobel laureate:
Dr. Baruch Blumberg
Discoverer of Australia antigen





Schematic diagram of HBV-related particles in serum and the associated antigens (in parentheses).

The spheres and filaments consist of only hepatitis B surface glycoproteins (HBsAg). They are 20 nm in diameter and are 10,000-fold greater in concentration than the complete virion (Dane particle: 40 nm diameter).

Phyllanthus niruri

Ancient insights

Generally
recommended in

- Common cold
- Jaundice
- Certain skin diseases

Modern discoveries

Antiviral properties

- Inhibits endogenous DNA polymerase
- Inhibits binding of HBsAg to HBs Anti-bodies

REPUTED PHYTOMEDICINE INSTITUTIONS



King Edward's Memorial Hospital, Mumbai.



Immunomodulating effects of *Tinospora cordifolia*

Current Therapeutics + Phytomedicines

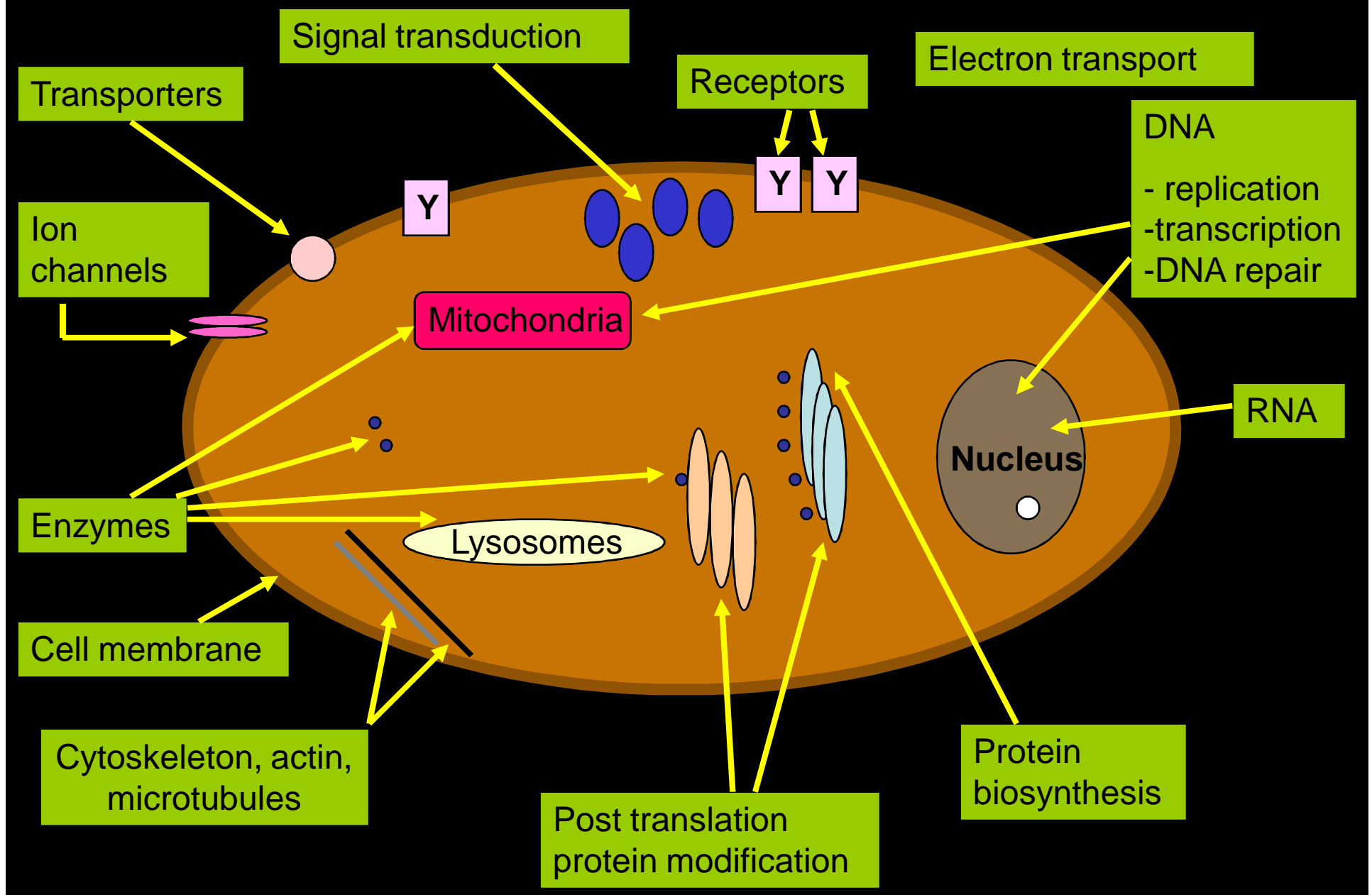
(The new paradigm)



PHYTOMEDICINES

Multi target therapy for multifactor
Pathophysiology

Overview of the main molecular targets that are modulated by plant medicines

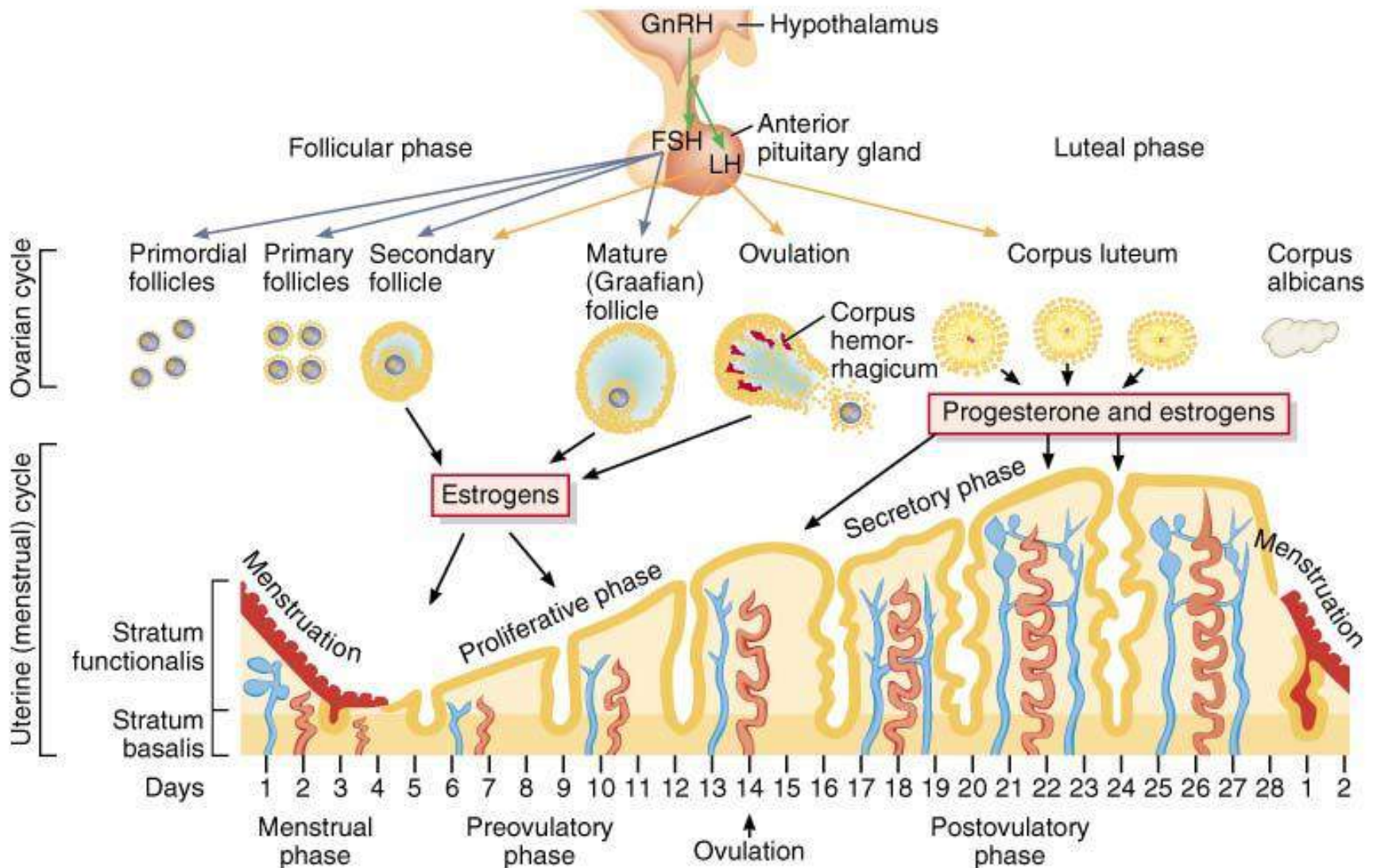


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Physiology of menstruation



Symplocos racemosa

J Ethnopharmacol. 2004 Sep.

Effect of *Symplocos racemosa* Roxb. on gonadotropin release in immature female rats and ovarian histology.

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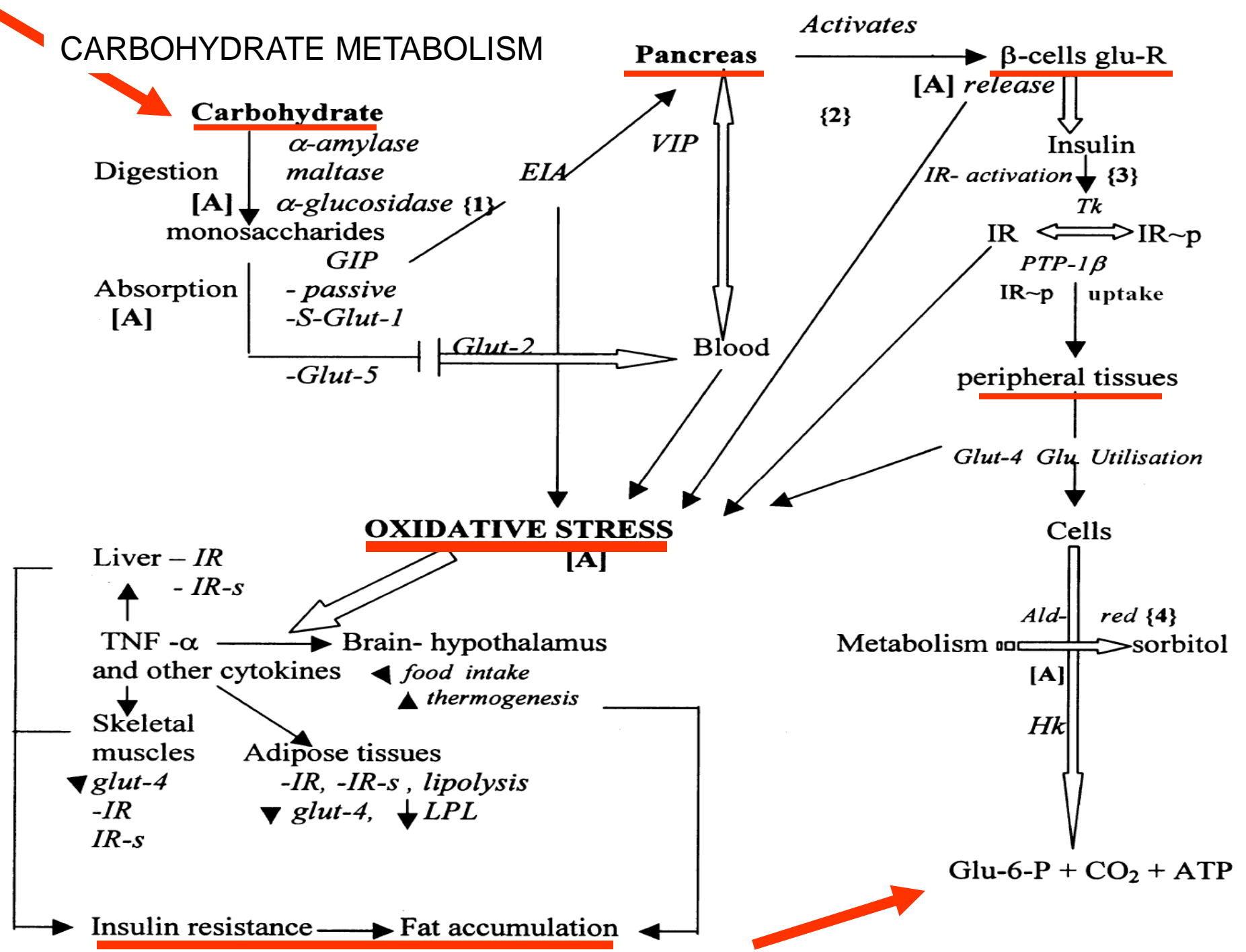
Phytoingredients in dub and infertility



M2-TONE

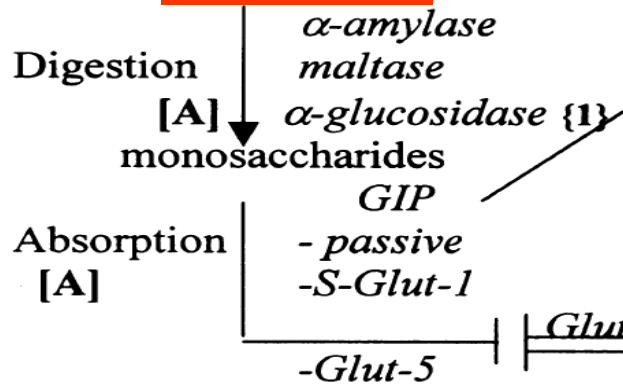
- **Saraca indica:** Restores H-P-O axis
- **Saraca indica:** Helps to arrest abnormal uterine bleeding
- **Symplocos racemosa:** Restores normal menstrual cycle
- **Zingiber officinale & Cedrus deodara :** Relieves abdominal pain, minimizes discomfort
- **Withania somnifera:** Helps reduce the anxiety
- **Nardostachys jatamansi:** Helps reduce the anxiety
- **Iron salts:** Provides nutritional support like haematinics
- Restores natural balance between endocrine emotions and nutrition
- **Excellent safety profile**

CARBOHYDRATE METABOLISM



CARBOHYDRATE METABOLISM

Carbohydrate



Pancreas

Activates

β-cells glu-R

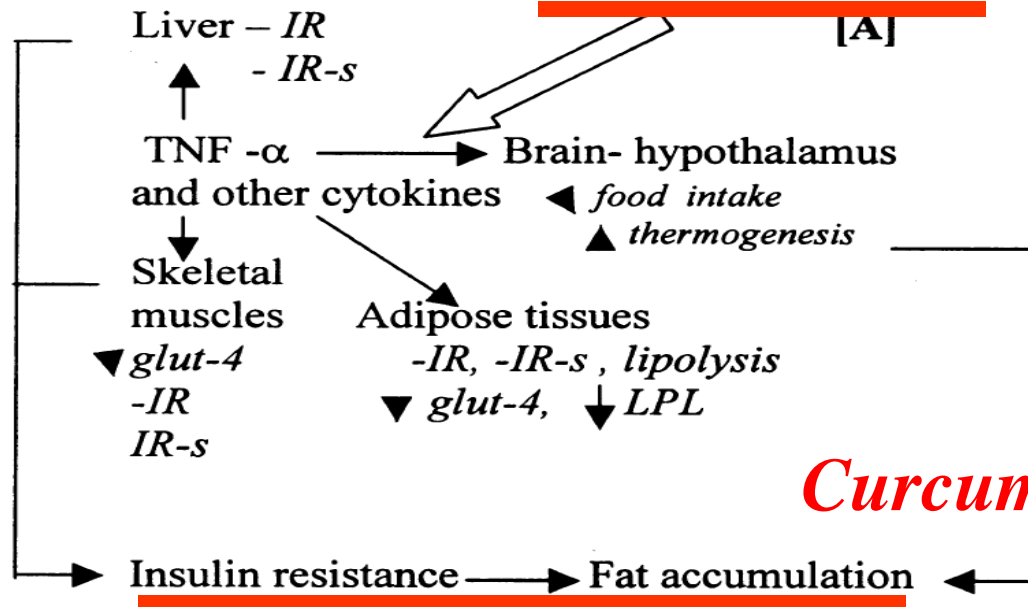
Momordica charantia

Pterocarpus marsupium

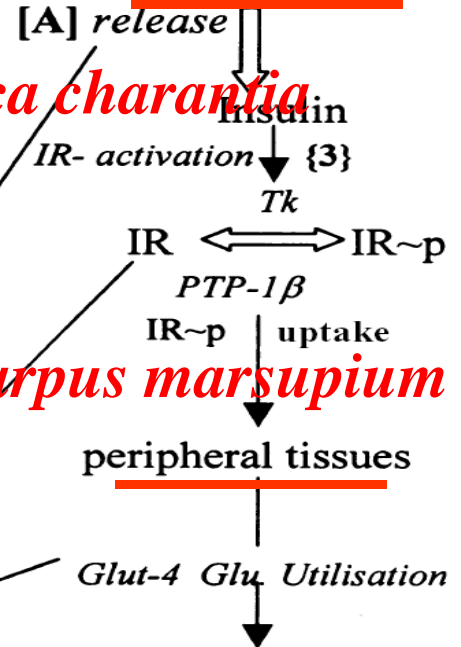
Emblica officinalis

OXIDATIVE STRESS

[A]

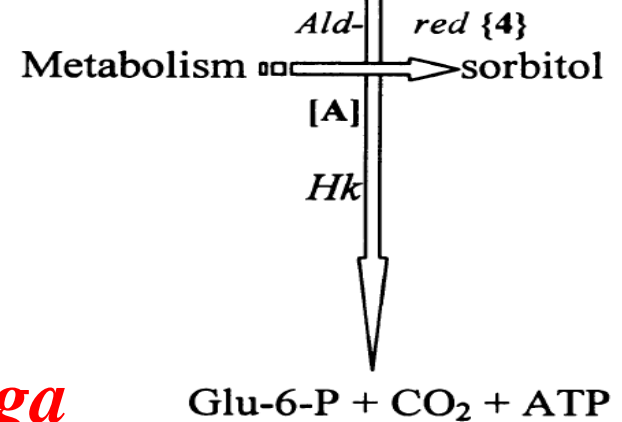


Curcuma longa



Glut-4 *Glu. Utilisation*

Cells

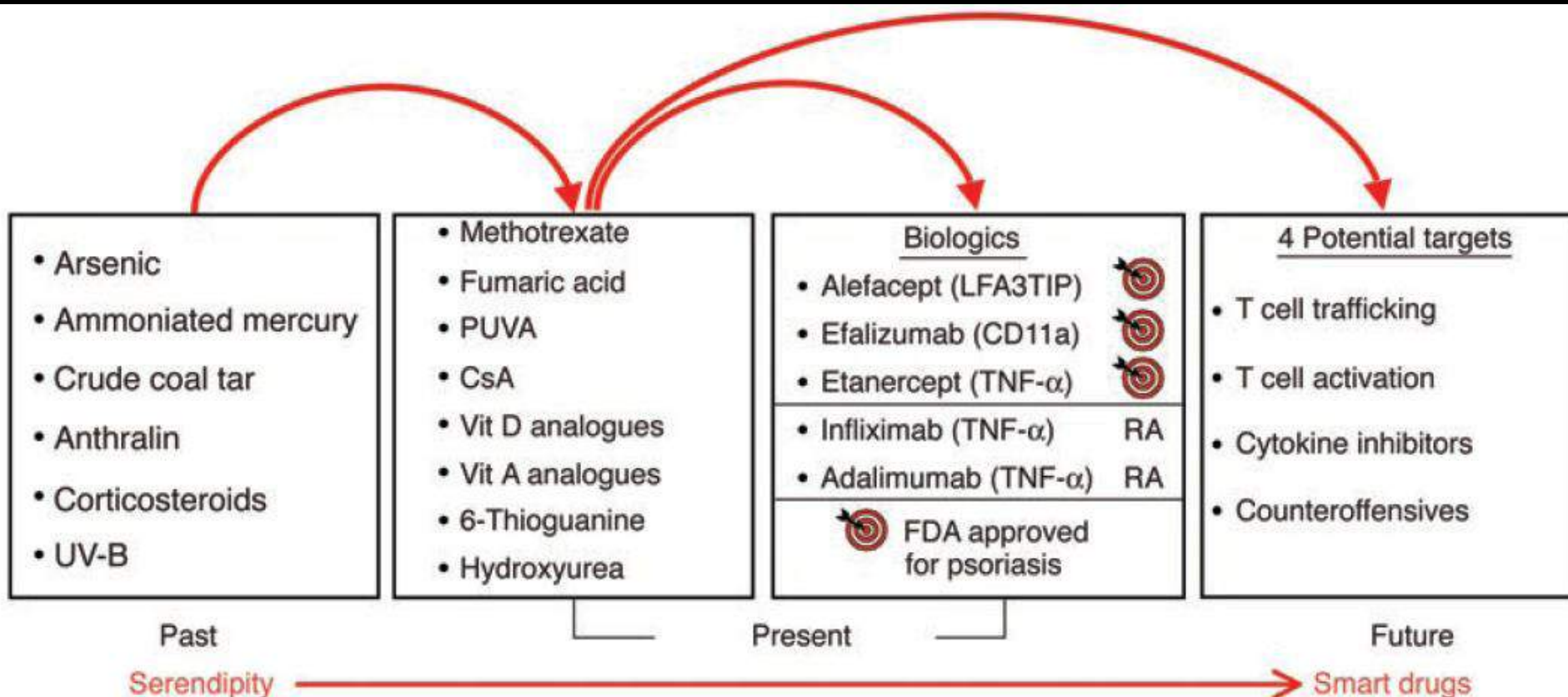


Psoriasis

- T-cell mediated inflammatory disease:
 - Epidermal hyperproliferation secondary to activation of immune system
 - Altered maturation of skin
 - Inflammation
 - Vascular changes

Therapeutic Opportunities – The Future

The flow chart of the treatment options for psoriasis



Therapeutic Opportunities – The Future



Smart drugs !

RATIONALE OF PHYTOPHARMACEUTICALS IN DERMATOLOGY

Misbehaving macrophages in the pathogenesis of psoriasis

Rachael A. Clark and Thomas S. Kupper

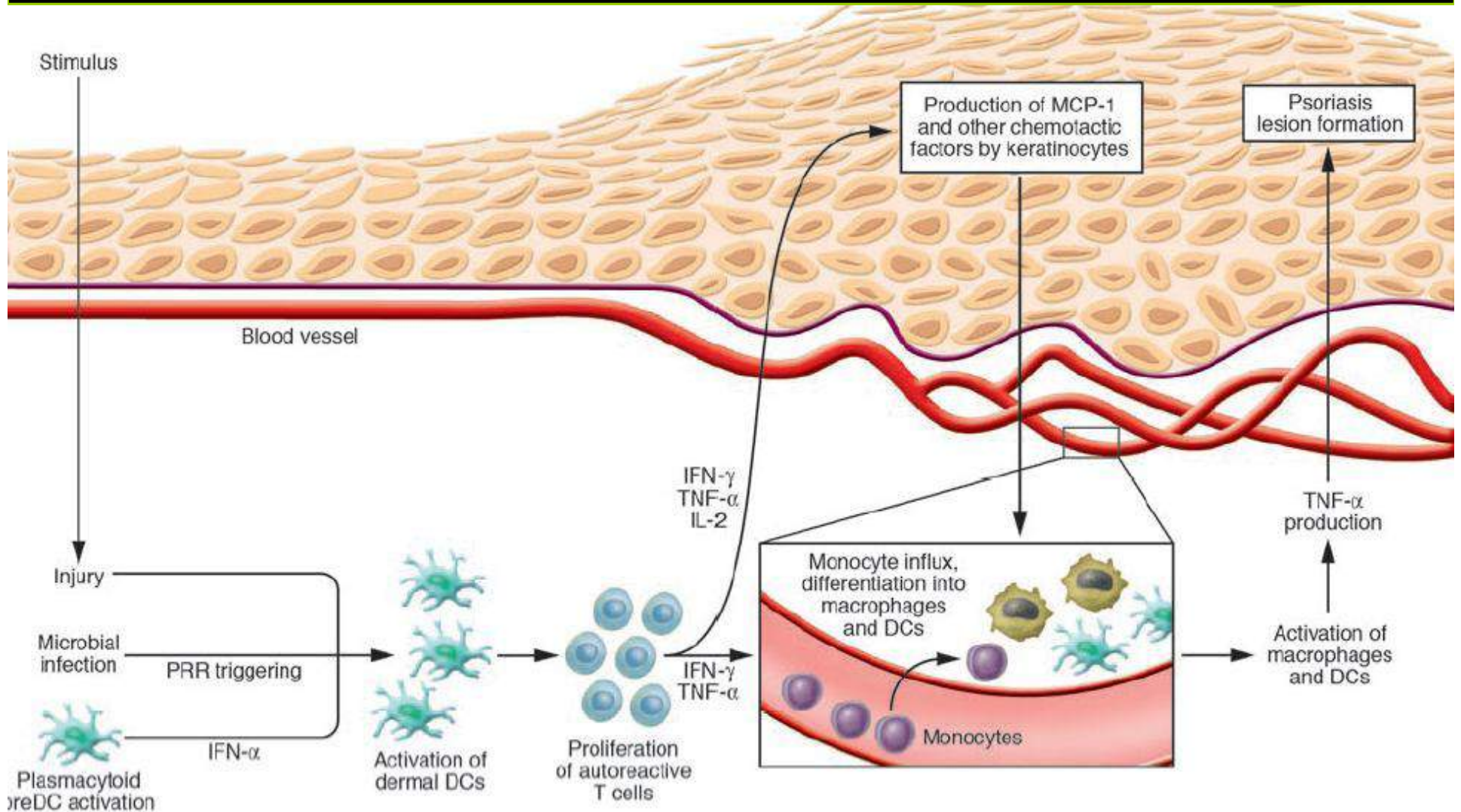
Harvard Skin Disease Research Center and Department of Dermatology, Brigham and Women's Hospital, Boston, Massachusetts, USA.

The Journal of Clinical Investigation

Volume 116 Number 8 August 2006

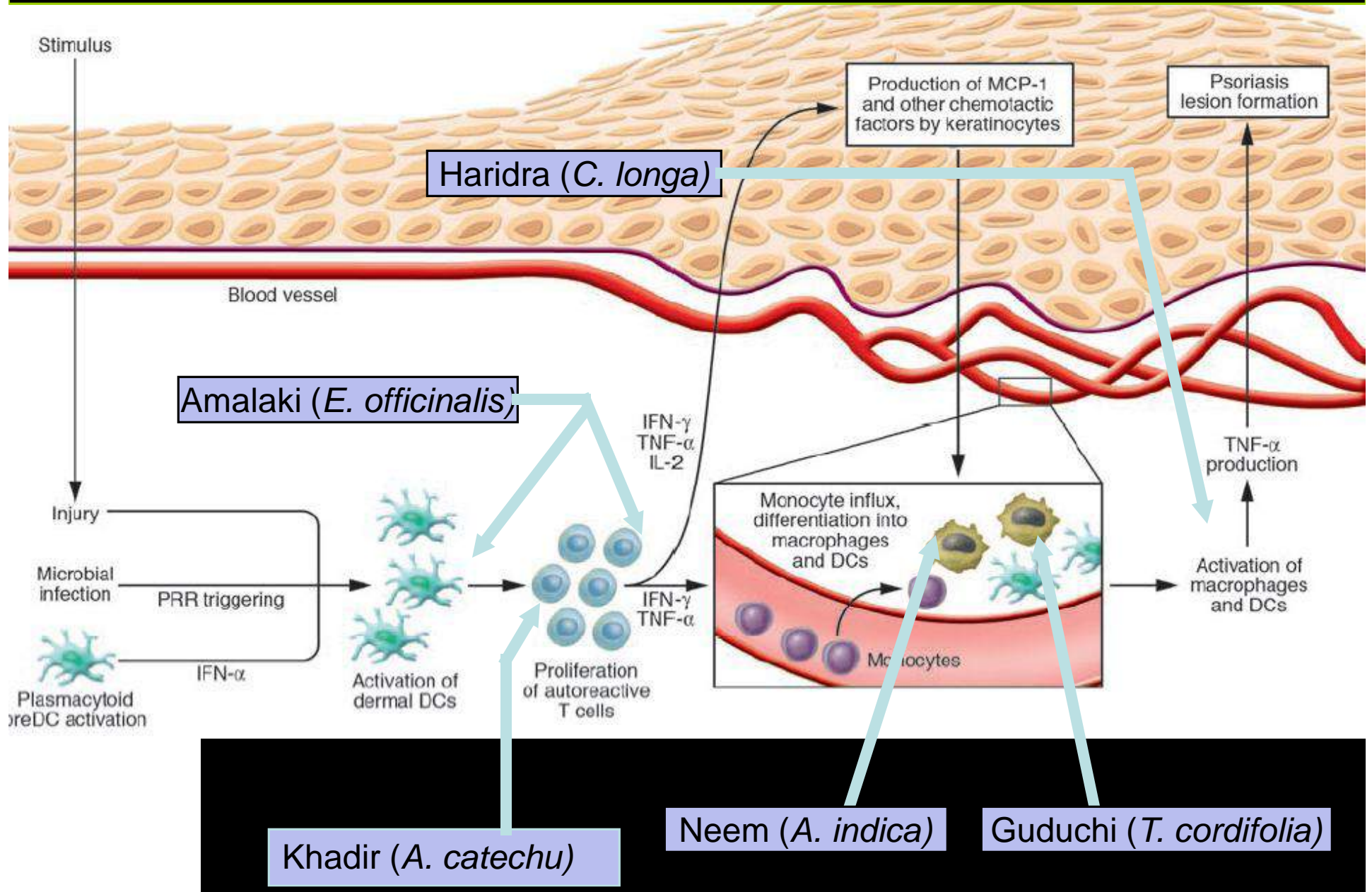
RATIONALE OF PHYTOPHARMACEUTICALS IN DERMATOLOGY

Pathogenesis of psoriasis



RATIONALE OF PHYTOPHARMACEUTICALS IN DERMATOLOGY

Action of the phytopharma herbs at different sites in the pathogenesis of psoriasis



Therapeutic Opportunities

–

The Future

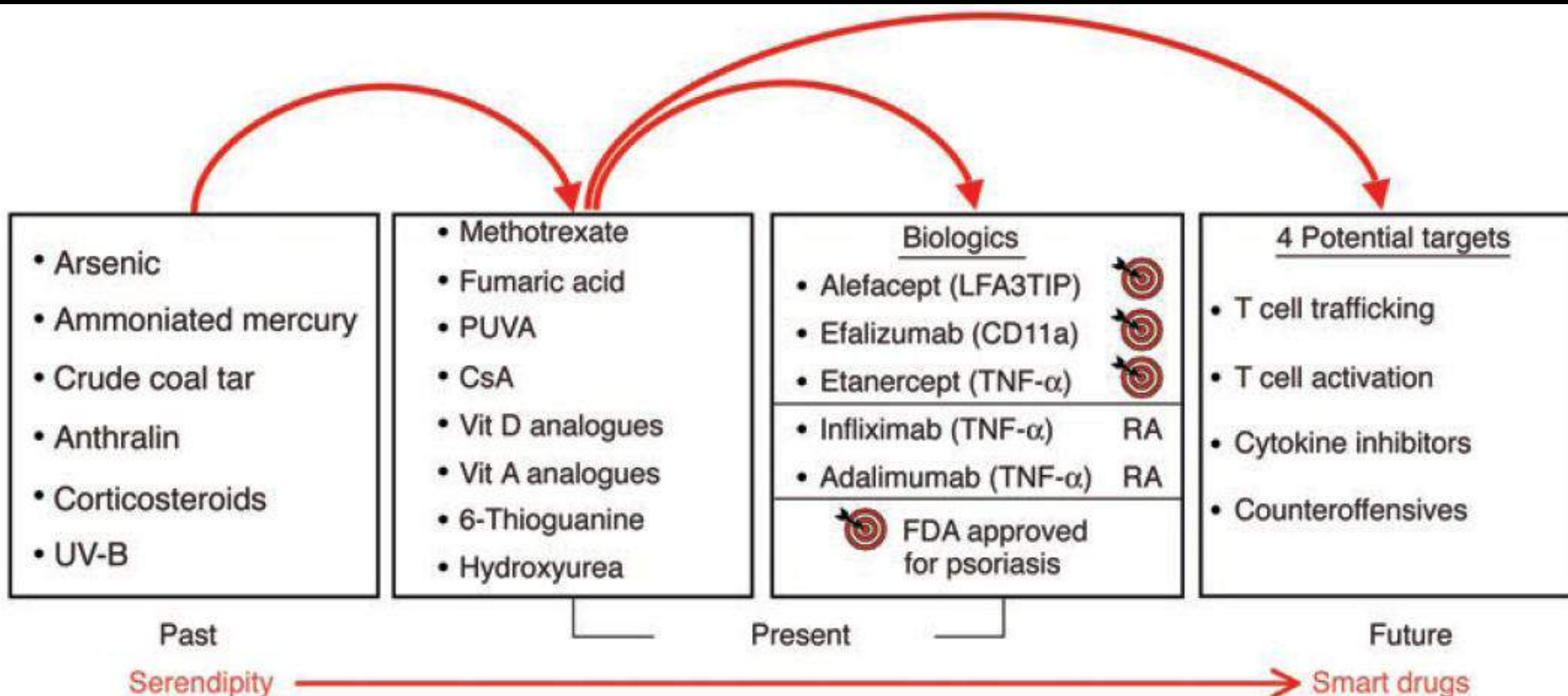
Potential targets

- T cell trafficking
- T cell activation
- Cytokine inhibitors
- Counteroffensives

Psoriasis

- T-cell mediated inflammatory disease:
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Therapeutic Opportunities – The Future



Therapeutic Opportunities – The Future



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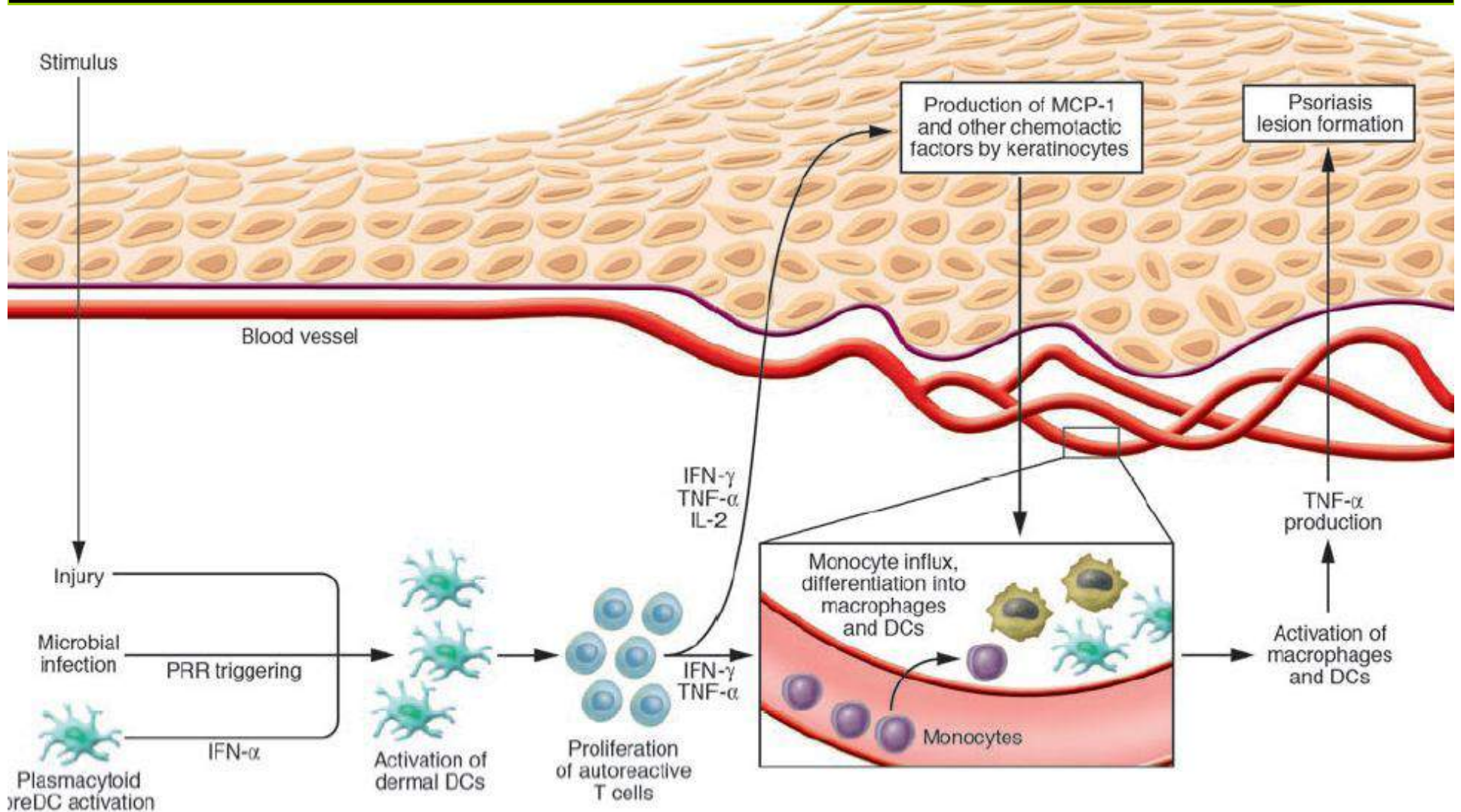
Harvard Skin Disease Research Center and Department of Dermatology, Brigham and Women's Hospital, Boston, Massachusetts, USA.

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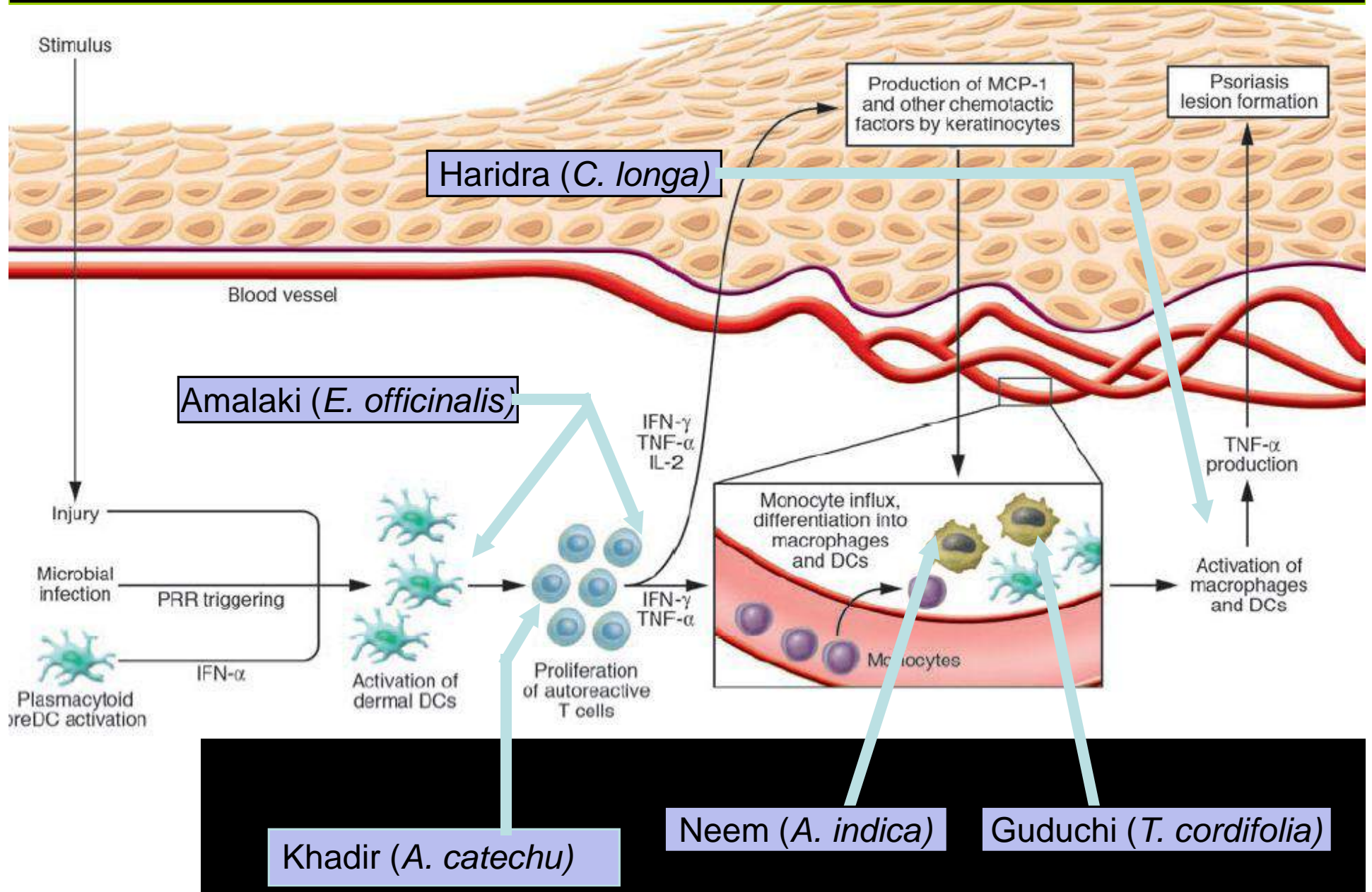
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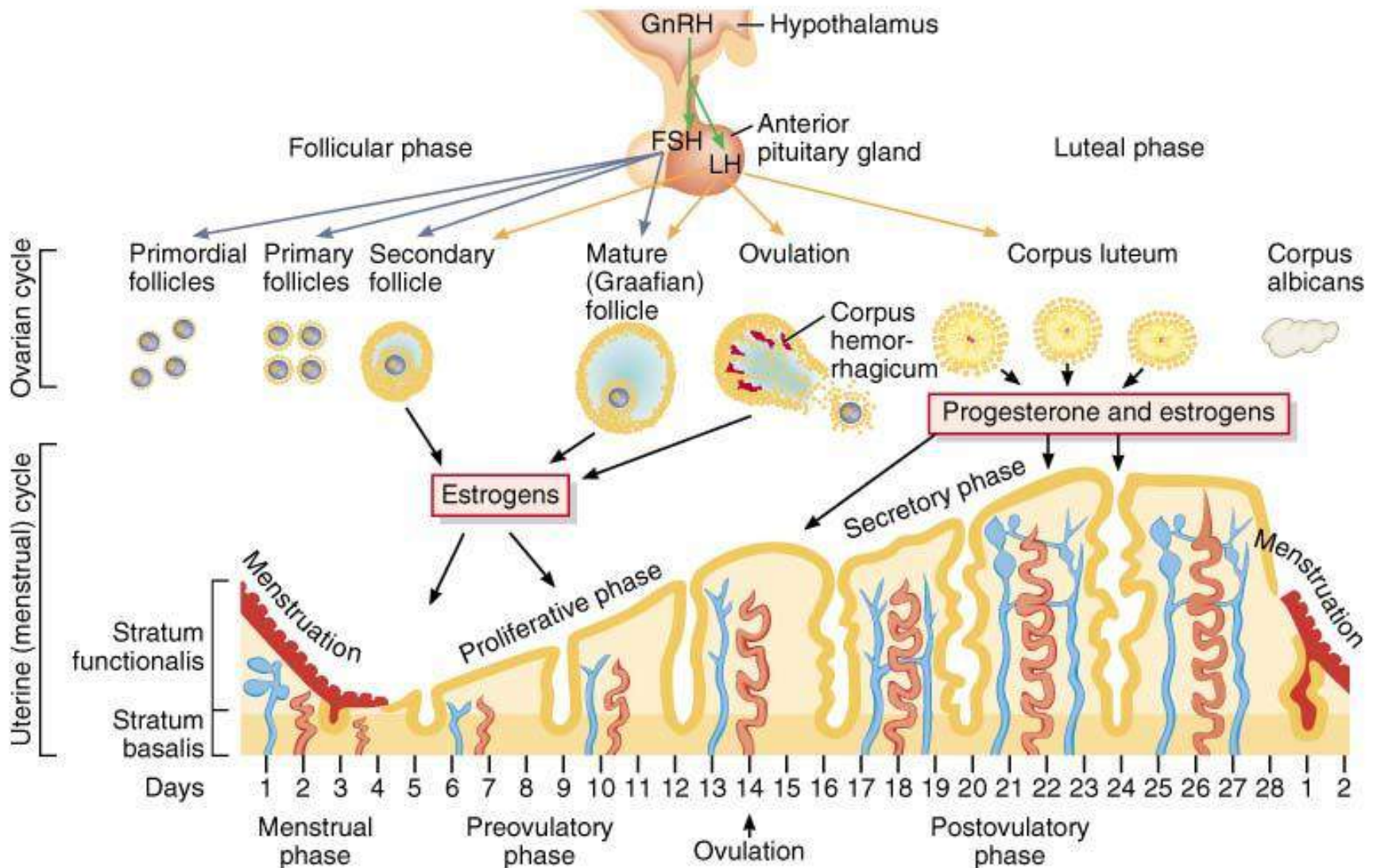


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Therapeutic Opportunities – The Future

Potential targets

- T cell trafficking
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MAJOR INGREDIENTS



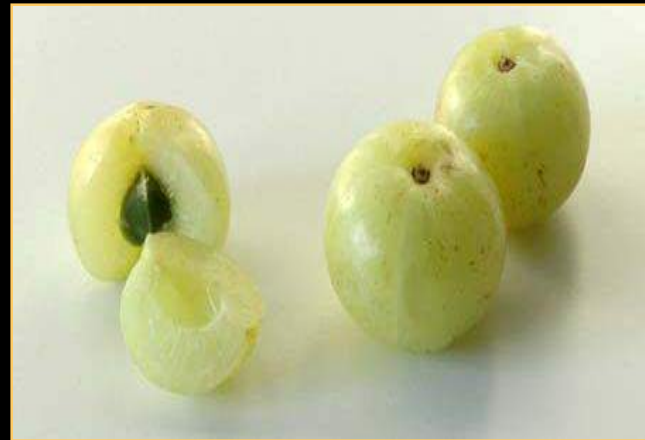
Vijayasaar

(Pterocarpus



Karela

(Momordica charantia)



Amalaki

(Emblica officinalis)



Neem

(Azadirachta indica)



Haridra

(Curcuma longa)

Karela (Momordica charantia)

Decreases insulin resistance

Momordica charantia acts
as
nephroprotective



Momordica charantia also acts to reduce cholesterol along with having blood sugar lowering property. Hypotriglyceridemic and hypocholesterolemic effects have been reported.

Diabetes Res Clin Pract 2001 51 (3):155-61)

Neem (*Azadirachta indica*)



Hypoglycaemic effect was observed with *A. indica* when given as a leaf extract and seed oil, in normal as well as diabetic rabbits

Indian J Physiol Pharmacol. 2000; 44(1):69-74

Herbal Insulin Sensitizer with D-chiro-inositol edge.

- **INSULIN SENSITIZERS**
- **CARDIOPROTECTIVE**
- **HYPOLIPIDEMIC**
- **ANTI-OBESITY**
- **ANTOXIDANT**
- **ANTIDIABETIC**

Benefits in diabetes

1. ***Insulin sensitization:*** It improves the efficacy of insulin by enhancing the uptake of glucose by the cells.
2. ***Antihyperglycaemic activity:*** Hyponidd reduces the levels of sugar in the blood.
3. ***Hypolipidemic activity:*** Hyponidd also reduces the levels of lipids (cholesterol, triglycerides, etc.) in the blood.
4. ***Antioxidant activity:*** Through its antioxidant activity, Hyponidd helps in preventing the damage to the beta cells of the pancreas. By reducing oxidative stress, Hyponidd helps in prevention of diabetic complications.

From medicinal plant to phytotherapeutic drug

.....today because of integration of modern science into pharmaceutical practices the quality of medicinal preparations from plants can be guaranteed if the raw material, the mode of preparation and the end product are well defined by the manufacturer.

Ther Umsch. 2002 Jun;59(6):275-82.
Meier B. Beat.Meier@ZellerAG.ch

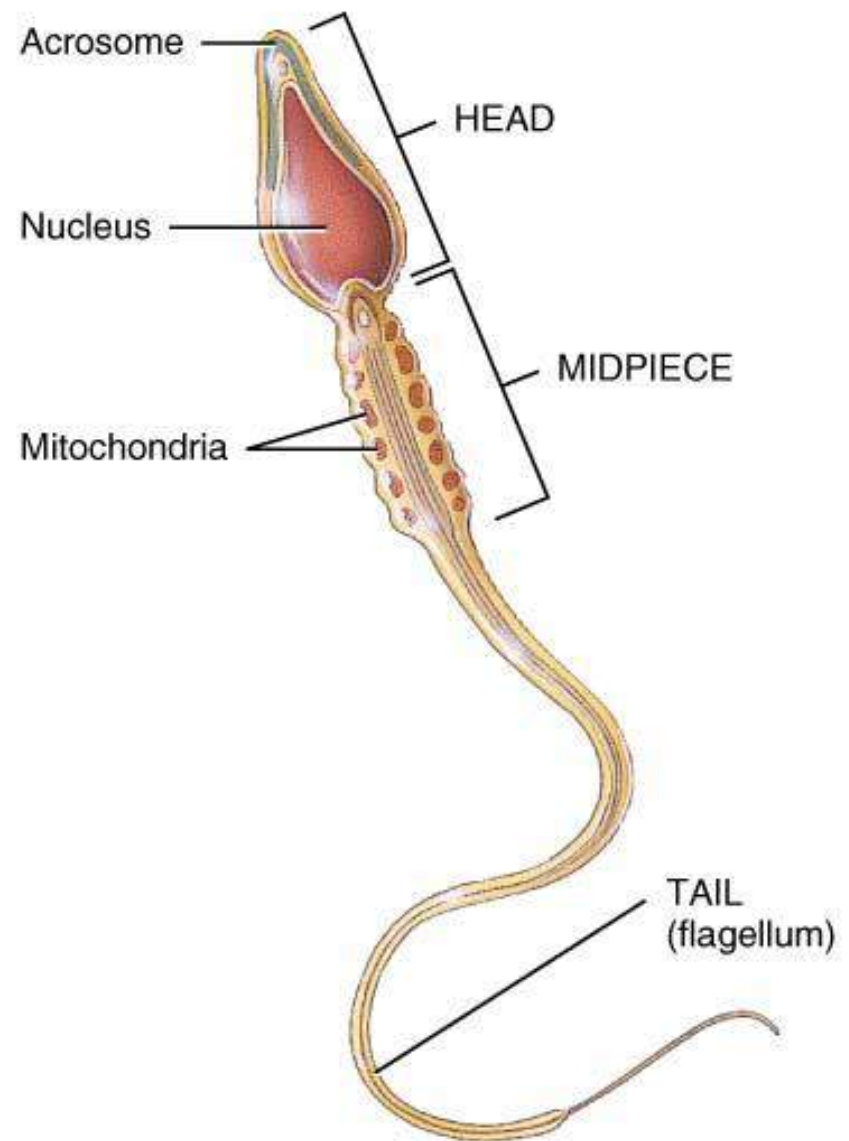
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Here, EAT THIS ROOT!!

One of the defined etiologies for male infertility is the excessive generation of

REACTIVE OXYGEN SPECIES (ROS)

by abnormal spermatozoa.

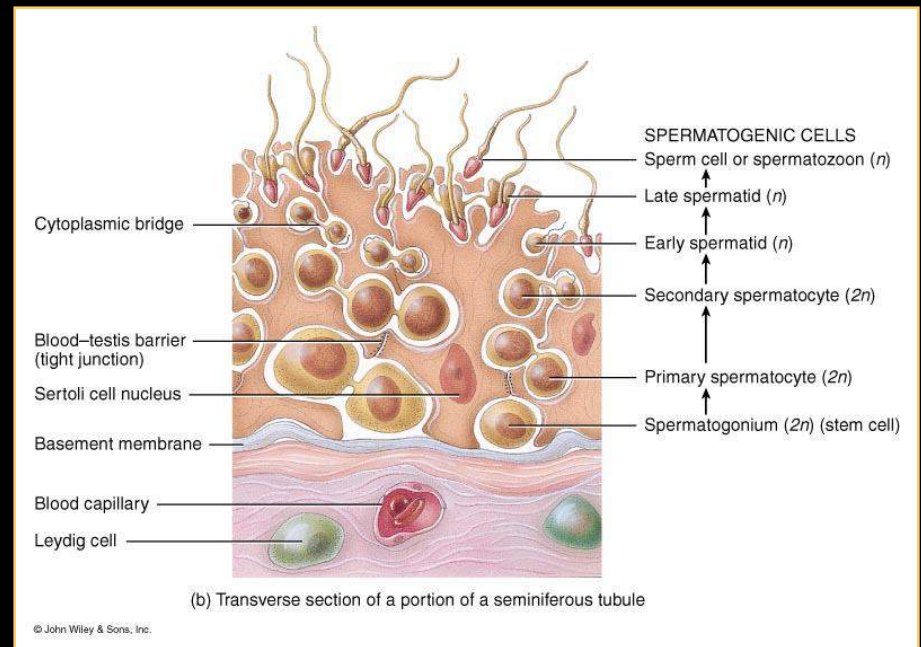


Parts of a sperm cell

ROS AND MALE INFERTILITY

Sperms are rich in PUFA, and therefore susceptible to ROS attack leading to -

- Decreased sperm motility
- Rapid loss of intracellular ATP
- Decreased sperm viability
 - Increased mid-piece morphology defects
 - Abnormal sperm capacitation and acrosome reaction



Lipid peroxidation of sperm membrane (PUFA rich) is considered to be the mechanism of ROS – induced sperm damage leading to infertility.



Q. Locke

Symplocos racemosa

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Saraca indica



Restores H-P-O axis

Mesua ferrea



Helps to arrest abnormal uterine bleeding

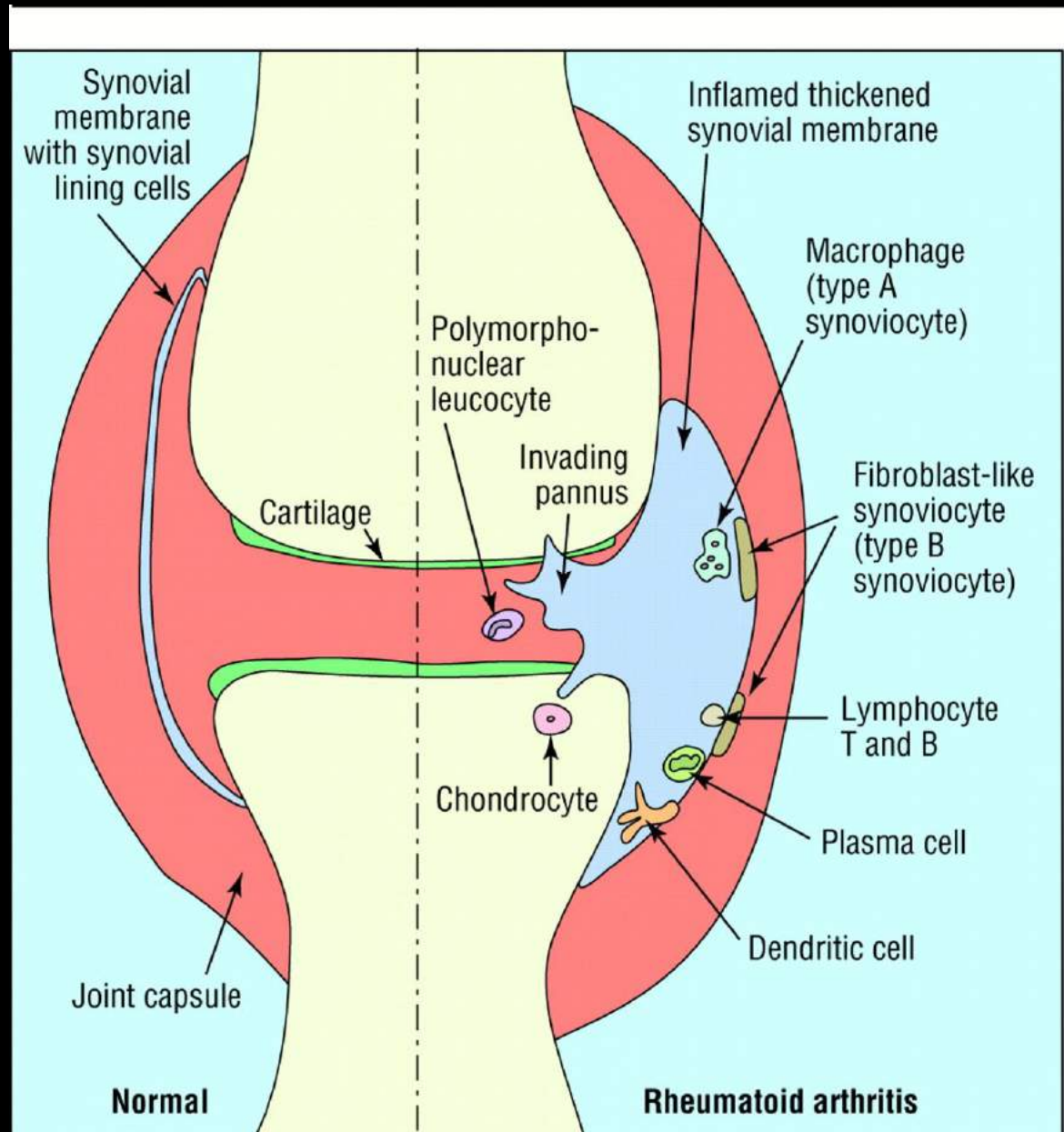
Hibiscus rosasinensis



Helps to arrest abnormal uterine bleeding

Rheumatoid arthritis

Its Pathology and pathogenesis



CLINICAL MANIFESTATIONS

Characteristically, RA is a chronic polyarthritis.

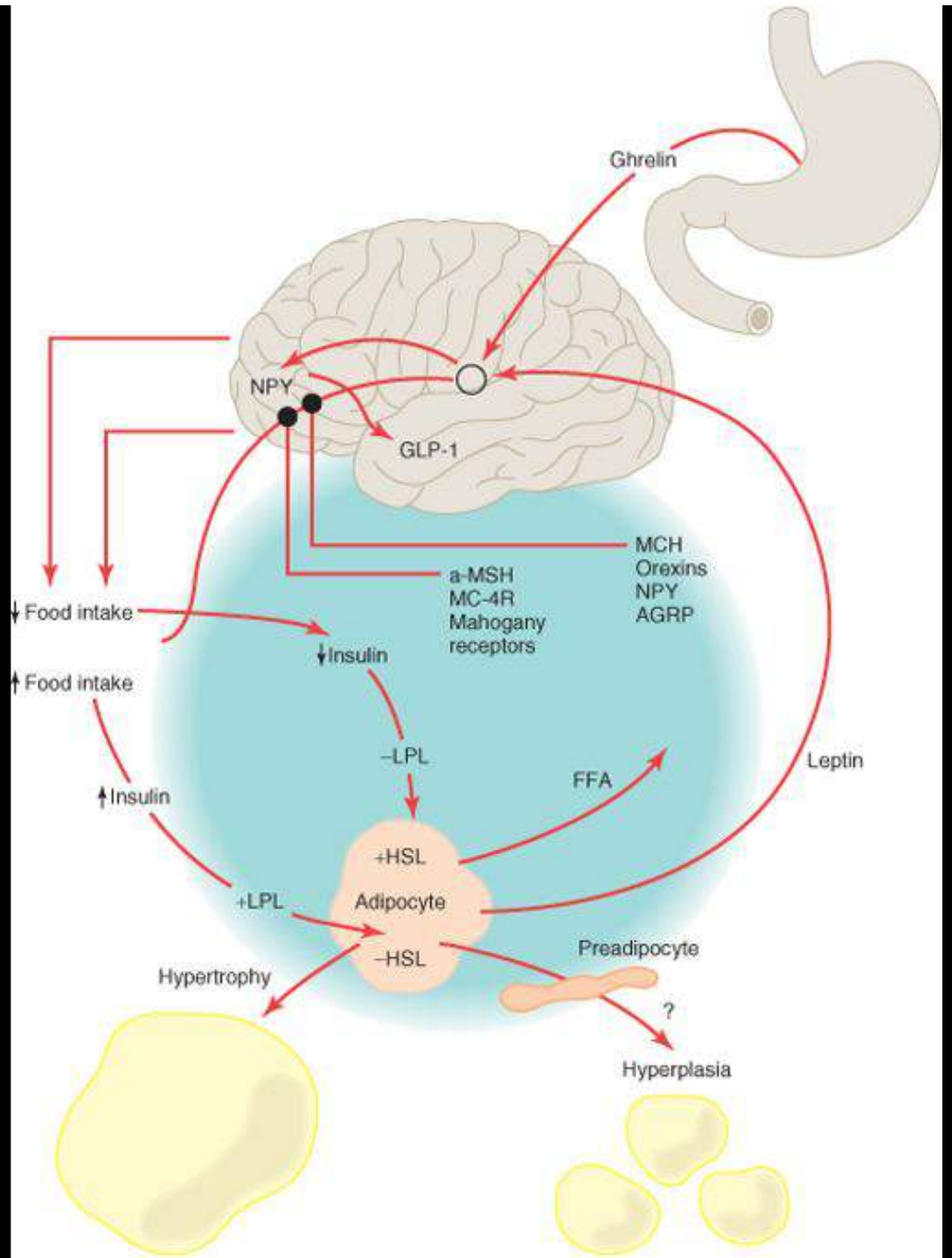
In approximately two-thirds of patients, it begins insidiously with:

- Fatigue
- Anorexia
- Generalized weakness
- Vague musculoskeletal symptoms

Until the appearance of synovitis becomes apparent.

This
“Prodrome”
may persist
for weeks or
months and
defy diagnosis.

Pathogenesis of obesity



सोऽयमायुर्वेदः शाश्वतो निर्दिश्यते

- अनादित्वात्
- स्वभावसंसिद्धलक्षणत्वात्
- भावस्वभावनित्यत्वाच्च ॥

चरकः ॥

एकं शास्त्रमधीयानो न विद्याच्छास्त्रनिश्चयम् ।

तस्माद्बहुश्रुतः शास्त्रं विजानियाच्चिकित्सकः ॥

सुश्रुतः ॥

एकस्मिन्नपि यस्येह शास्त्रे लब्धास्पदा मतिः ।

स शास्त्रमन्यदप्याशु युक्तिज्ञत्वात् प्रबुध्यते ॥

चरकः ॥

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W.H.O approved manufacturing unit



THANKS