WORLD CONGRESS ON INFECTIOUS DISEASES 2015 LONDON 9-12 AUGUST

TITLE : **A NEW BIOLOGICAL TREATMENT FOR HIV INFECTION AND AIDS-NON RELATED DISEASES**

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LET'S LOOK NOW AT THE MAIN MECHANISMS BY WHICH STRESS AND NON RESOLVED INFLAMMATION ATTACK HIV INFECTED PATIENTS

First **: Damage to stem cells**

Second **: Imbalance and or destruction of adaptive systems**

Third **: Impairment of the immune system function, affecting immune cell turnover, replication, exhaustion and longevity**

Fourth **: Dysregulation of the nuclear steroid receptors**

Fifth : **Activation of epigenetic mediated aberrant DNA methylation and the erosion and shortening of telomeres. This is associated with heightened risk of severe metabolic, vascular, brain disorders and premature aging.**

SYNTHETIC FLOW-CHART OF COMPLEX MECHANISMS INVOLVED IN AIDS NON RELATED DISEASES

Slide 3

INFECTIOUS AGENTS

SYSTEMIC LOW-GRADE INFLAMMATION

CYTOKINES, ROS, RNS, micro RNA

- Suppress anti-inflammatory cytokines IL-10, TGFβ;
- Stimulate pro-inflammatory cytokines, IL-1, IL-6, IFNα

DNA damage

Genomic instability

Mutation

Cancer

- aberrant DNA methylation
- and, histone acetylation

Telomeres shortening

is associated with

Interfere with dendritic cells differentiation, maturation and function

Cortisol resistance
Insulin resistance

Interfere with nuclear steroid receptors
- Glucocorticoids
- Mineralcorticoids
- Estrogens
- Progesterone
- Androgens
- Retinoids
- Thyroid hormones
- Vitamin D1

aging of stem cells
aging of immune cells
high risk of severe , metabolic, immune, vascular,brain diseases and premature tissues aging

Tissue injury

Stem cells damage

Imbalance and/or damage of neuro-endocrine-immune- metabolic systems

Cancer, cardio-vascular, kidney, liver, neuro-cognitive, immune disease, metabolic disorders including obesity, fat redistribution and diabetes mellitus

OBSERVE NOW, THE EXTRAORDINARY EFFECTS ON STEM CELLS EXPRESSION AND MULTIPOTENCY, CANCER STEM CELLS, CELLS LONGEVITY, DEGENERATED NEURAL CELLS , WHICH CAN BE OBTAINED BY EXPOSURE TO STEM CELL STAGE DIFFERENTIATION FACTOR .

SCDSF's

- ENHANCES STEM CELLS EXPRESSION AND MULTIPOTENCY
- ENHANCES IMMUNE-MODULATORY AND PROTECTIVE EFFECTS ON MESENCHYMAL STEM CELLS
- ACTIVATES TELOMERES IN NORMAL AND MULTIPOTENT STEM CELLS (ANTI-AGING EFFECTS)

SCDSF's

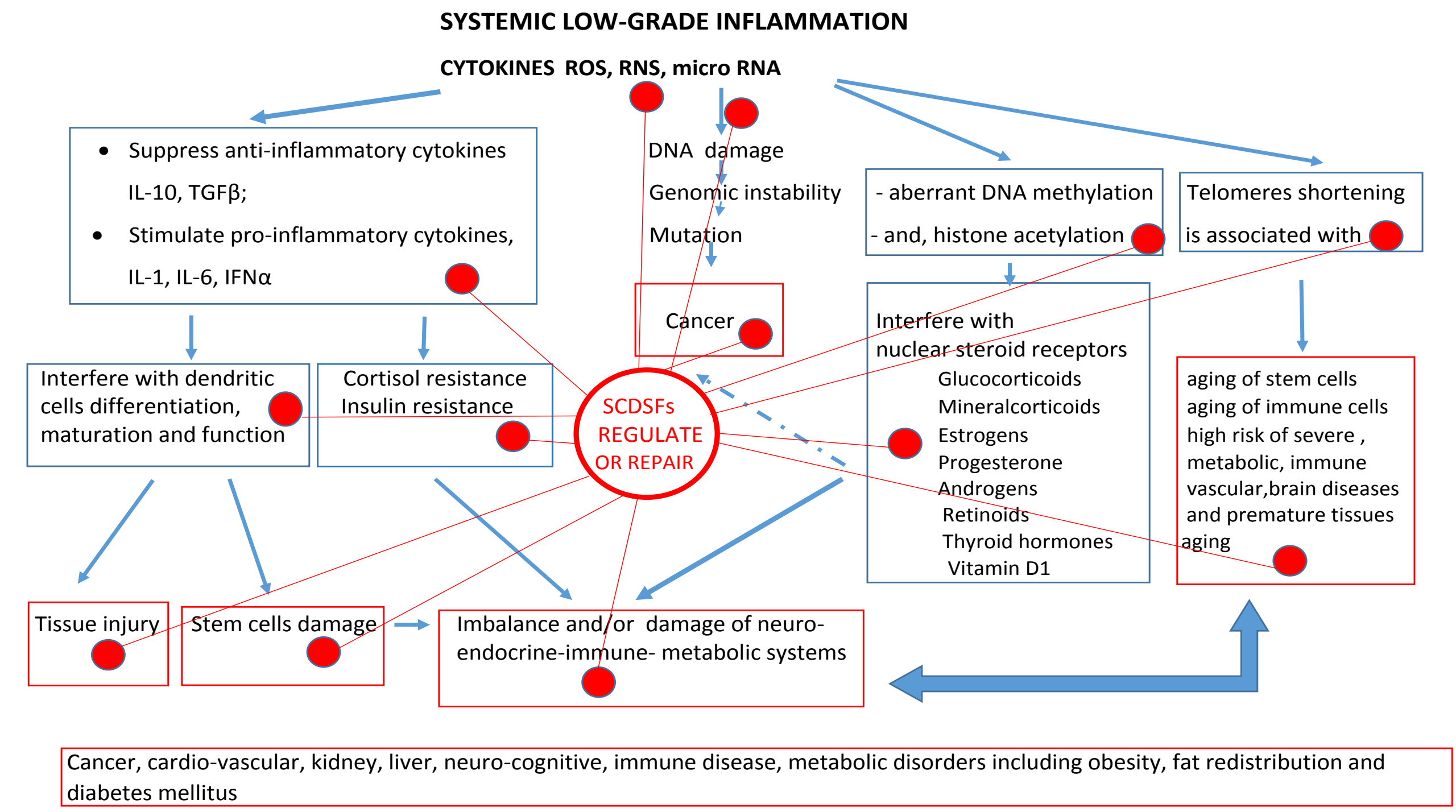
- REVERSES EPIGENETIC ALTERATIONS BY INHIBITING DNA METHYLTRANSFERASES AND HISTONE ACETILASES
- PROLONGS STEM CELLS LIFE BY EXTENDING TELOMERES
- INCREASES IMMUNE CELLS LONGEVITY WHICH IS DIRECTLY CONNECTED TO THE FUNCTIONAL INTEGRITY OF TELOMERES

SCDSF's

- INDUCES DIFFERENTIATION, SLOWS DOWN PROLIFERATION AND/OR APOPTOSIS OF CANCER (STEM) CELLS
- DIFFERENTIATION AND/OR APOPTOSIS IN DEGENERATED NEURAL CELLS
- CONTRASTS NEURO-DEGENERATION IN NORMAL MULTIPOTENCY STEM CELLS

SCDSF's

MAINTAINS AND/OR RESTORES HOMEOSTASIS OF NEURO-ENDOCRINE-IMMUNE-METABOLIC ADAPTIVE SYSTEMS .


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Stimulate pro-inflammatory cytokines, IL-1, IL-6, IFNα
DNA damage
Genomic instability
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- aberrant DNA methylation
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Telomeres shortening is associated with
Cancer
Interfere with dendritic cells differentiation, maturation and function
Cortisol resistance
Insulin resistance
SCDSFs REGULATE OR REPAIR
Interfere with nuclear steroid receptors
Glucocorticoids
Mineralcorticoids
Estrogens
Progesterone
Androgens
Retinoids
Thyroid hormones
Vitamin D1
aging of stem cells
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high risk of severe , metabolic, immune vascular,brain diseases and premature tissues aging
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- SINCE EPIGENOMIC ALTERATIONS ARE REVERSIBLE,I AM THEREFORE PROPOSING TO HARNESS THE ENERGY OF STEM-CELLS, BY EMPLOYING STEM CELLS DIFFERENTIATION STAGE FACTORS TO TREAT INFLAMMATORY AND DEGENERATIVE DISEASES, AND TO PREVENT THEIR COMPLICATIONS.

- THIS PROPOSED NEW THERAPY IS PROMISING FOR HIV INFECTED PATIENTS, AS IT CONTRASTS INFLAMMATION AND AGE-ASSOCIATED COMPLICATIONS THAT EMERGE AS MAJOR PROBLEMS FOR BOTH THE CURRENT GENERATION AND THOSE RELATIVELY YOUNG PEOPLE BEGINNING TO AGE .