



**6<sup>TH</sup> ASIA PACIFIC INTERNATIONAL CONGRESS OF ANATOMY  
(6<sup>TH</sup> APICA)**

**&**

**13<sup>TH</sup> NATIONAL CONGRESS OF INDOONESIAN ANATOMIST ASSOCIATION  
(13<sup>TH</sup> PIN-PAAI)**

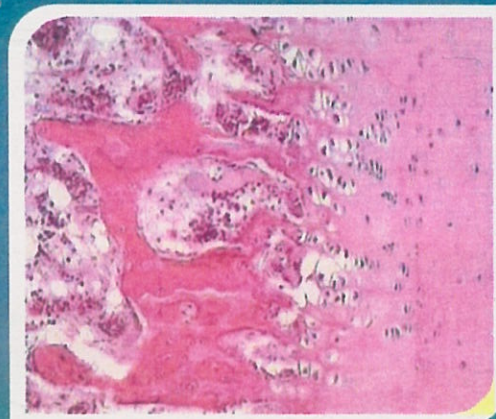
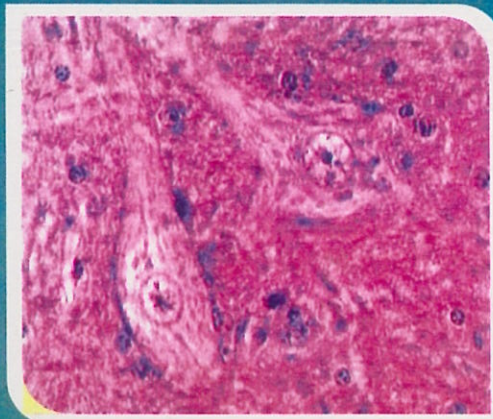
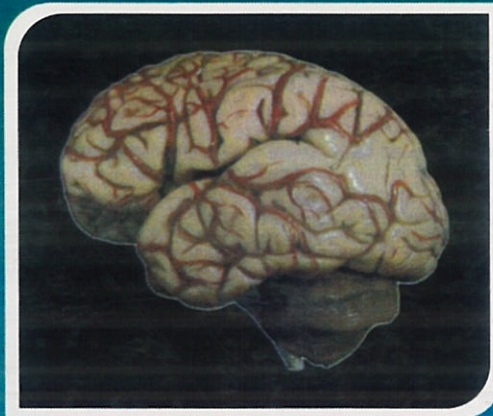
**Proceeding Book**

# **THE FUTURE OF ANATOMY**

**Clinical Anatomy**

**Biomolecular and Cellular Anatomy**

**Anatomy in Radiology and Imaging**



**GrahaBIK-IPTEKDOK**

**Faculty of Medicine of Airlangga University**

**Surabaya, 22<sup>nd</sup>-23<sup>rd</sup> July 2011**

**Indonesia**

Department of Anatomy and Histology  
Faculty of Medicine, Airlangga University  
Surabaya - Indonesia

ISBN 978-602-99668-0-0



9786029966800

## EDITOR BOARDS

### Coordinator:

Viskasari P. Kalanjati, dr, M.Kes, Ph.D

### Steering Committee:

Prof. Yun Qing Li

Prof. In-Sun Park, Ph.D

Prof. Madya Dr. Srijit Das

Prof. MT Joghataei

Prof. Maciej Henneberg, MSc (summa cum laude), Ph.D, DSc, FAIBiol

Visiting Prof. Yoshiyuki Tohno

Prof. Gayatri Rath

Prof. H. Ari Gunawan, dr., MS., Ph.D

Prof. Dr. Doddy M. Soebadi, dr, Sp.B, Sp.U(K)

Prof. Win Darmanto, drs., M.Si, PhD

### Organizing Committee:

Sudibjo, dr., MS., PA

Subagjo, dr., MS., PA

R. Moch. Wirono AS, dr., MS., PA

Hj. Prijati Sri Irawati, dr., MS

F.X. Tjatchrisanto Hudyono, dr., MS., PA

Haryanto Alimsardjono, dr., PA

Ni Wajan Tirthaningsih, dr., MS., PA

Hj. Iskantijah Budi Rahardjo, dr., MS., PA

Hj. Sri Amindariati, dr., MS., PA

H. Clirul Anwar, drh., MS

Dr. Widjiati, drh, Msi

Myrtati Dyah Artaria, dra, MA., Ph.D

Rina Susilowati, dr., Ph.D

Susy Kristiani, drg, M.Kes

Epy Muhammad Luqman, drh, M.Kes

Joni Susanto, dr., M.Kes

Annisaa Chusida, drg., M.Kes

Dr. H. Abdurachman, dr., M.Kes., PA(K)

Dr. Eka Pramytha Hestianah, drh., M.Kes

Dr. Pratiwi Soesilowati, drg., M.Kes., PA

Dr., Dra. Toetiek Koesbardiati

Dra. Tania Ardiani Saleh Hariadi, MS

Tri Hartini Yuliawati, dr, M.Ked

Sakina, dr

Rimbun, dr

Desy Purwidyastuti, dr

Lucky Prasetiowati, dr

Dewi Ratna Sari, dr

Kusuma Eko Purwantari, dr

Arni Kusuma Dewi, dr

PROGRAM DAY-1

July 22<sup>nd</sup>, 2011

Time	Activity	
07.00-08.00 am	<b>VENUE: GRAHABIK-IPTEKDOK (GRABIK)</b> Registration	
08.00-08.30 am	<b>Opening Ceremony</b> <ul style="list-style-type: none"> <li>• Report by General Chairman Dr. Abdurachman, dr, M.Kes, PA (K)</li> <li>• Opening speech by Dean Faculty of Medicine, Airlangga University Prof. Dr. Agung Pranoto, dr., MSc., Sp.PD, K-EMD., FINASIM</li> <li>• Welcome address and Opening remarks, Rector of Airlangga University Prof. Dr. H. Fasich, Apt</li> </ul>	
08.30-08.50 am	<b>Venue: Grabik 2<sup>nd</sup> floor</b> Moderator: Prof. Jurnalid Uddin, dr <b>Keynote Speaker I:</b> Prof. Yun Qing Li (KS I.I) "The development of anatomy through professional scientific organization"	
08.50-09.10 am	Coffee Break	
09.10-09.30 am 09.30-09.50 am 09.50-10.10 am 10.10-10.30 am 10.30-11.00 am	<b>Venue: Grabik 2<sup>nd</sup> floor</b> Moderator: Prof. Eryati Darwin, dr <b>Plenary Session I</b> Speaker I: Prof. Shigeo Okabe, MD., PhD (Japan) (PSI.I) Speaker II: Paulus Rahardjo, dr., Sp.Rad (K) (Indonesia) (PSI.II) Speaker III: Prof P. Gopalakhrisnakone MBBS, PhD.FAMS.DSc (Singapore)(PSI.III) Speaker IV: Prof. Dr. H. Agus Abadi, dr., Sp.OG (K) (Indonesia) (PSV.II) Discussion	
11.00-01.00 pm	<b>Venue: GRABIK 2<sup>nd</sup> floor</b> <b>Lunch &amp; poster presentation</b> (odd numbers) Jury : Yan Efrata S, dr., Sp.BTKV, Tomy Lesmana, dr., SpB. KBD, Viskasari P. Kalanjati, dr., M.Kes, PhD, Ferdiansyah, dr., SP.OT, Prof. MT Joghataei, Dr. H. Bambang Purnomo, drh, MS., Joni Wahyuhadi, dr., PhD., Sp.BS, M.H. Nasr-Esfahani, B.Sc, PhD, Prof. Dr. H. Agus Abadi, dr., Sp.OG (K) Note: Presenter for poster competition must stand beside his/her poster from 12.15-01.00 pm for jury to be able to mark (Q&A)	
01.00-01.20 pm 01.20-01.40 pm 01.40-02.00 pm 02.00-02.20 pm 02.20-02.50 pm	<b>Venue: GRABIK 2<sup>nd</sup> floor</b> <b>Plenary Session II: Neuroscience</b> (Moderator : Myrtati DA, dra.,MA.,Ph.D) Speaker V: Prof Jong-Eun Lee (Korea) (PSII.I) Speaker VI: Viskasari P. Kalanjati, dr., M.Kes, PhD (Indonesia) (PSII.II) Speaker VII : Prof. Changman Zhou, MD, PhD(CSAS) (PSII.III) Speaker VIII : Prof. MT Joghataei (Iran) (PSII.IV) Discussion	<b>Venue: RK Anatomi</b> <b>Plenary session III: Neuroscience</b> (Moderator : Joni Wahyuhadi, dr.,PhD., Sp.BS ) Speaker IX: Prof. Dr. Abdul Hafid Bajamal, dr., Sp.BS (Indonesia)(PSIII.I) Speaker X: Durriyah Hasan Adli, PhD (PSIII.II) Speaker XI: Prof. Yun Qing Li (CSAS,RRC) (PSIII.III) Speaker XII: Visiting Prof .Yoshiyuki Tohno (Thailand) (PSIII.IV) Discussion
02.50-03.10 pm	Coffee Break	

41.	Professor Dr Normadiah M Kassim	Department Of Anatomy Faculty Of Medicine, Um, Kuala Lumpur, Malaysia	Bisphenol a interferes with pubertal development of ovary	PB33
42.	Eti Yerizel	Medical Faculty Andalas University Padang, Indonesia	Effect of increasing blood glucose concentration into some atherogenic factors with biomolecular study among diabetes mellitus type 2 patients	PB33
43.	Dr. Setia Budi Zain,	Anatomy Dept., Medical Faculty Andalas University Padang, Indonesia	Identification of authentically prophesy variable norm of psychophysical activity that may prevent the initiating activation of nuclear factor-kb in osteoarthritis	PB37
44.	Dr. Eduardus Bimo A.H, M.Kes.,Drh	Ibikk-Tddc, Institute Of Tropical Disease Airlangga University, Surabaya-Indonesia	Detectionandphylogenetic analysis of <i>Mycobacterium leprae</i> in prehistoric skull bone from Lewoleba, FloresIsland-Lembata Indonesia based on TTC regions	PB39
45.	Ria Margiana	Anatomy Dep., Fac. Of Med., Indonesia Univ., Jakarta, Indonesia	Distribution of collagen in the postnatal and aging rat lung	PB41
46.	Dra. Toetik Koesbardiati	Dept Of Anthropology, Faculty Of Social And Political Sciences, Airlangga University, Surabaya, Indonesia	New Evidence of <i>Mycobacterium leprae</i> in indonesian ancient human skeletal remain by molecular identification: new clue of modern human dispersal?	PB43
47.	Dr. Bernadetha Nadeak Mpd.	Department Of Histology, Christian University Of Indonesia, School Of Medicine Jakarta,Indonesia	The role of eosinophils in asthma bronchial	PB45
48.	Dr. Kartika Dewi	Fac. Of Med., Maranatha Christian Univ., Bandung, Indonesia	The effect of Epigallocatechin-3-Gallat(EGCG) and Epigallocatechin (Egc) in green tea towards weight loss, leukocytes proliferation and histological feature of colon in dss-induced colitis Swiss Webster male mice	PB47
49.	Vojdani Z.	Laboratory For Stem Cell Research, Anatomy Department, Shiraz University Of Medical Sciences, Shiraz, Iran	Morphometric study of the effects of <i>Elaeagnus angustifolia</i> fruit on chondrogenesis and osteogenesis in mouse embryo	PB49
50.	T. Kermani	Department Of Anatomical Sciences, Medical School, Birjand University Of Medical Sciences, Birjand , Iran	Comparison of NISSL bodies of motor cortex in cesarean section with normal vaginal delivery in newborn mice	PB51

Poster Presentation: Biomolecular and Cellular Anatomy (PB35)

**EFFECT OF INCREASING BLOOD GLUCOSE CONCENTRATION INTO SOME ATHEROGENIC FACTORS WITH BIOMOLECULAR STUDY AMONG DIABETES MELLITUS TYPE 2 PATIENTS**

**Yerizel, E**

Medical Faculty Andalas University Padang  
Email: cank.bungo@yahoo.com

**ABSTRACT**

**Introduction:** Type 2 diabetes mellitus (DM type 2) was a degeneration disease which become health problem in Indonesia as well as in the world because of that DM type 2 cases have increased year by years. There are some risk of diabetes such as increasing welfare, change of food habit & less physical activity that factor to predisposition of increase incidence DM type 2. **Results :**Laboratory finding of DM type 2 were uncontrolled hyperglycemia as glucotoxicity which the level of HbA1c > 7% and two hours blood glucose PP  $\geq$  200 mg/dl. Therefore it will cause macro-microvascular disorders and tissues damage. Insulin Resistance & beta cell dysfunction were as etiology of hyperglycemia in DM type 2 patients. Then high intracellular glucose and excessive mitochondrial superoxyde production will also cause DNA damage, Poly-ADP Ribose Polymerase (PARP) activation, Glyceraldehyde Phosphat dehydrogenase (GAPDH) inhibition. **Conclusion:** Therefore GAPDH pathway disorders reaction mechanism of complication in DM Type 2 such as: Polyol pathway. PKC (via DAG) activation. and increasing hexokinase pathway flux then molecular affect his express such as Intracellular Adhesive molecule-1 (ICAM-1), Nitrit Oxide (NO), glutathion peroxidase (GPX), finally this process will be endothel disfunction,

**Keywords:** DM type 2, Atherogenic, PARP, ICAM-1

**OBJECTIVE**

The aims of the study to observe molecular effect of blood glucose increase to atherogenic factors among DM type 2 patients

**METHODS AND MATERIAL**

Observation research with cross sectional study comparative approach to the 30-60 years old patients of DM type 2 have been done. Its population was all patients DM type 2 whose level of blood glucose post prandial  $\geq$  200 mg/dl for in-patient care and out-patient care of Internal Medicine Department RSUP M.Djamil Padang, Sample was part of the population that is patients of DM type 2 who have inclusion and exclusion characteristics. The control aspect was undiagnosed DM type 2 range of age was 30 – 60 years old. Total sample were 70 people, 35 patients were classified as DM type 2 and another 35 people were non DM type 2 (control). Investigation of blood glucose level conducted by enzymatic method and level of HbA1c conducted by the variant hemoglobin testing, PARP activity and level of ICAM-1 conducted by Enzyme Linked Immunosorbent Assay (ELISA) method.

**RESULTS**

Table 1. Characteristics of the subjects

Characteristic of subject	DM type 2 Mean $\pm$ SD	Non DM Mean $\pm$ SD	p
Age (years)	51.66 $\pm$ 5.06	49.77 $\pm$ 5.27	0.13
IMT (kg/m <sup>2</sup> )	25.00 $\pm$ 2.31	24.21 $\pm$ 2.69	0.19
Blood glucose puasa (mg/dl)	191.60 $\pm$ 35.47	93.37 $\pm$ 7.18	< 0.001
Blood glucose 2 jam PP (mg/dl)	367.77 $\pm$ 70.68	125.06 $\pm$ 16.01	< 0.001
HbA1c(%)	11.19 $\pm$ 2.04	6.02 $\pm$ 0.56	< 0.001

Table 2 Average of PARP Activities in DM type 2 and Non DM

Group	n	Activity of PARP (Unit/ $\mu$ l)		p
		Mean $\pm$ SD		
DM type 2	35	457 $\pm$ 81.34		0.01
Non DM	35	214 $\pm$ 75.54		

Based on the research average activity of PARP in DM Type 2 and non DM Type 2 were 457  $\pm$  81.34 unit/ $\mu$ l and 214  $\pm$  75.54 unit/ $\mu$ l respectively.

The mean ICAM-1 concentration in DM type 2 group were 670.93  $\pm$  192.44 ng/ml. that ICAM-1 in non DM 360.01  $\pm$  137.56  $\mu$ g/ml(Tabel 3)

Table 3 Average of level ICAM-1 in DM type 2 and Non DM

Group	n	Level of ICAM-1 (ng/ml)		p
		Mean $\pm$ SD		
DM type 2	35	670.93 $\pm$ 192.44		< 0.001
Non DM	35	360.01 $\pm$ 137.56		

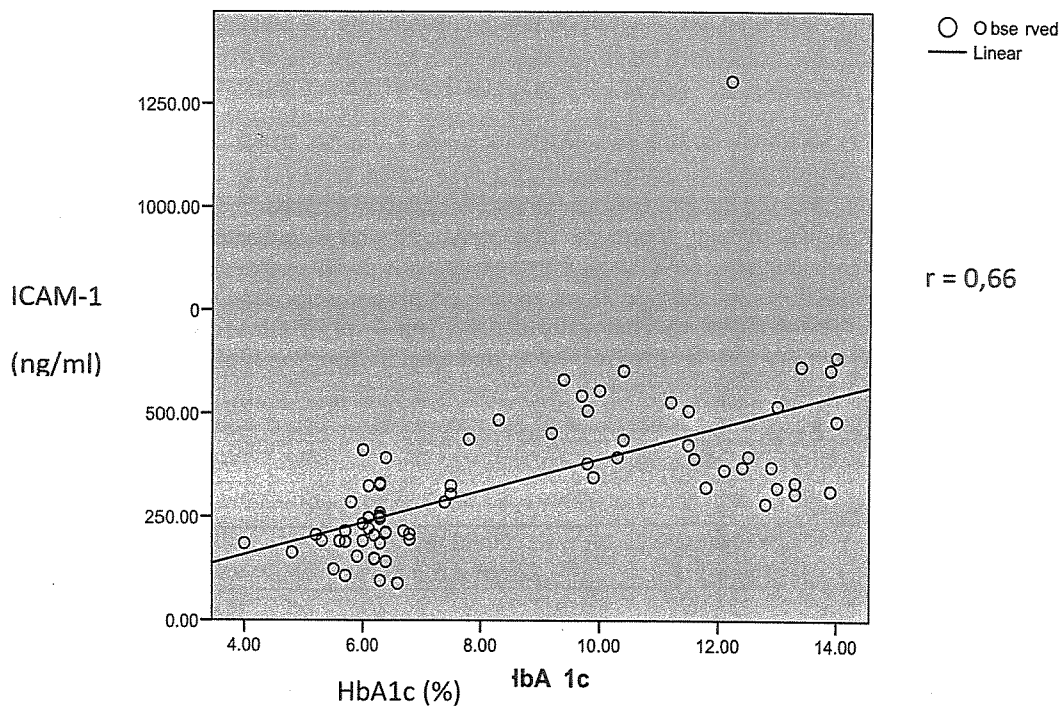


Figure 1. HbA1c Vs PARP

There were obvious correlation between group of DM type 2 and non DM type 2, the higher level of HbA1c to the higher PARP activity

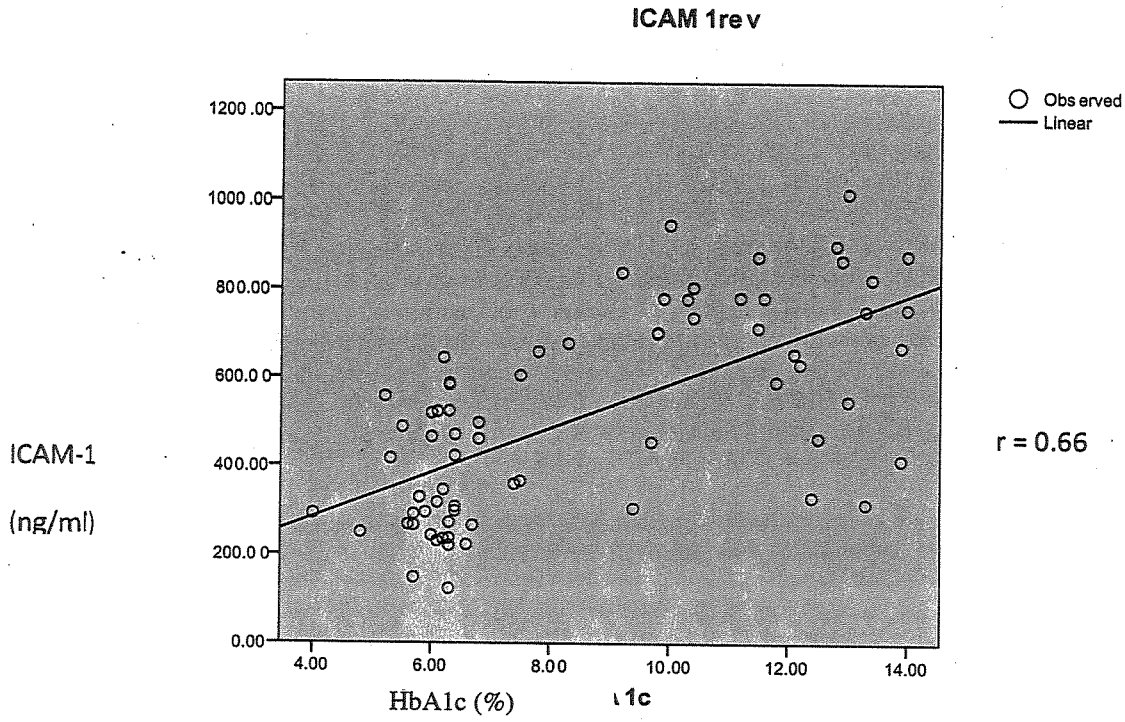
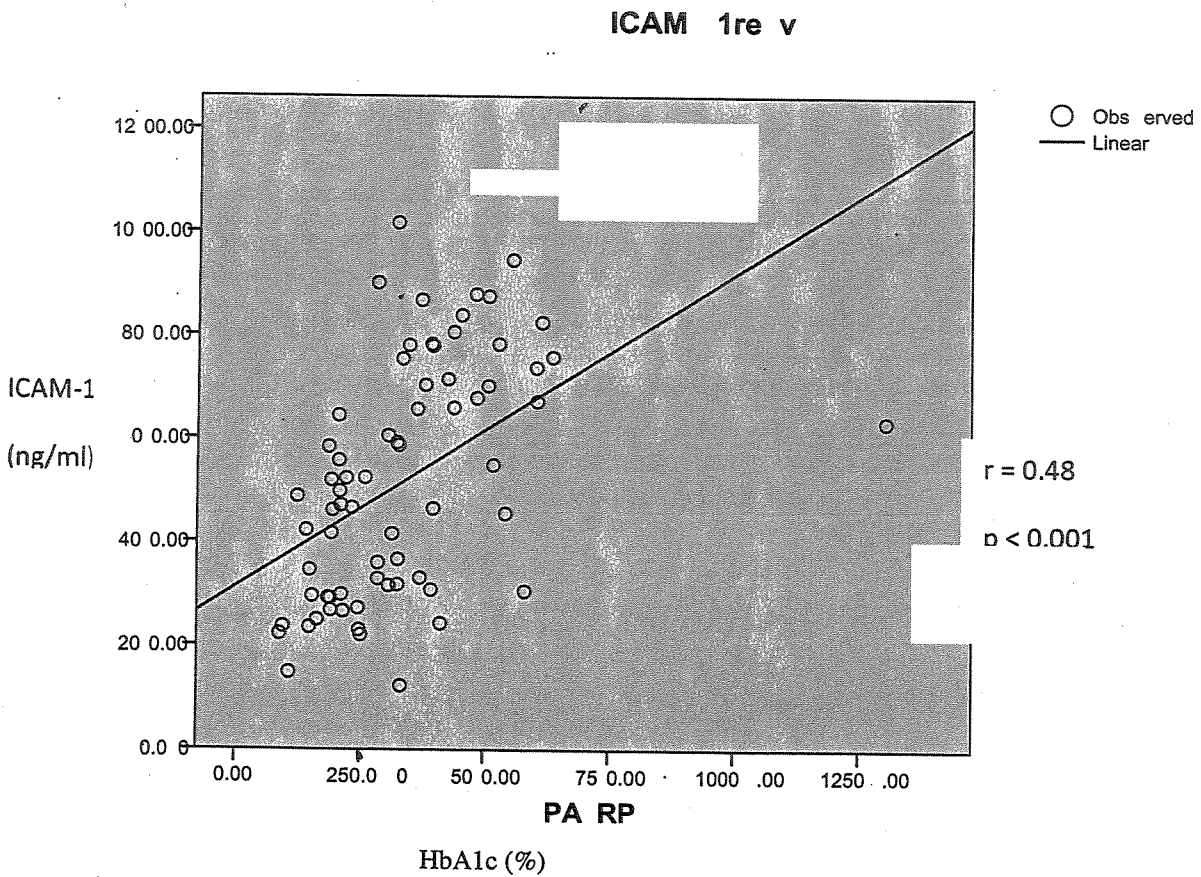


Figure 2. HbA1c Vs ICAM-1

There were obvious correlation between group of DM type 2 and non DM type 2, the higher level of HbA1c to the higher level ICAM-1





There were obvious correlation between group of DM type 2 and non DM type 2, the higher PARP activity to the higher level ICAM-1

#### CONCLUSION

There were obvious relationship between group of DM type 2 and non DM type 2, the higher PARP activity to the higher level ICAM-1.

#### REFERENCES

- Barbara A, Gilschrest & Vilhelm A.Bohr (editor),2001. The Role of DNA Damage and Repair in Cell Aging. Series editor: Mark P.Mattson,National Institute on Aging,Baltimore,USA, pp 113-129
- Bouchard V.J, Michele R, Michele R, Guy G P, 2003. PARP-1, a determinant of Cell Survival in Response to DNA damage. Health and Environment Unit, Laval University Medical Research Center, Sie-foy, Quebec, Canada,Experimental Hematology 31,446-454.Published by Elsevier Inc
- Brownlee M,2005.The Pathology of Diabetic complication.A Unifying mechanism.Diabetes J: 54; 1615-1625
- Davidson College, 2010. ICAM-1 Introduction and structure Regulation Function Pathology and Therapy.<http://www.biodavidson.edu/Courses/Immunology/Students/Sprin>
- Krauss S,Zhang CY, Scooano L *et al.*, 2003. Superoxide mediated activation of uncoupling protein 2 cause pancreatic beta cell disfunction.J Clin Invest 112; 1831-1842