KOWSAR
The Brilliant Future of Publishing
www.KowsarPub.com

National Institute of Genetic Engineering and Biotechtnology

Iranian Journal of Biotechnology

P-ISSN 1728-3043
E-ISSN 2322-2921

www.ijbiotech.com

Abstract Book

13th Iranian Congress of Biochemistry & 5th International Congress of Biochemistry and Molecular Biology

Number 42, Vol. 11, Supplement 1, Spring 2013

with breast cancer under treatment and 44 healthy people who referred to ISFAHAN SEYEDOLSHOHADA Hospital , they were selected randomly after have taken the formal consents from the people to be tested , the blood sample gathered through standard venous sampling method from them . the Malondialdehyde oxidative density measurement provided and performed by Thiobarbituric acid on the serums and analyzed the data by using the statistical SPSS software . The resultant through statistical analysis used in this study, in all statistical comparisons made with $P < 0.05$, presented a meaningful difference .
Results: utilizing the independent T- test to investigate the MDA density resulted from the two groups , healthy and sick , indicated that the MDA density average on patient with the breast cancer is much more than the healthy people significantly (P-value = 0.01) .
Conclusions: Based on this issue , and with consideration to the results of present study and to be proposed the lipid peroxidation case , as an influenced process in breast cancer prevalence , it is feasible to suggest MDA as a helpful determinant confirmation on person with breast cancer . Lastly , we can propose the oxidative reactions and the biologic hurts resulting from these emerged reactions , due to oxidative stress increase and insufficiency of the defense ability of the anti-oxidative systems as an important mechanism influenced on the breast cancer emergence .
Keywords: Breast cancer , Malondialdehyde , Oxidative marker , Thiobarbituric acid

P-3-52646-Suppression of cyclin D1 expression by crocetin in *N*-nitroso-*N*-methylurea induced breast cancer in female rats

Mahboobeh Ashrafi, Ph.D. [1], S.Zahra Bathaie, Ph.D.[2] and Saeid Abroun, Ph.D.[3]
4- Department of Basic Sciences, Faculty of Veterinary Medicine, Shiraz University, Tehran, Iran.
5- - Department of Clinical Biochemistry, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran.
6- Department of Hemtology, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran.

Background: Crocetin from saffron has several medicinal properties, especially anticancer effect. On the other hand breast cancer is the second leading cause of cancer related death among women and induction of mammary tumors by NMU in rat is a preferred model of breast cancer induction for investigating of breast cancer in women. Cyclin D1 in G1 phase plays a key role and its overexpression has been reported between 40 and 90% cases of invasive breast cancer. Thus, because of the anticarcinogenic effect of crocetin and the importance of cyclin D1 in breast cancer, in the present study the effect of crocetin on cyclin D1 expression by RT-PCR and Western blot analysis, was investigated.
Materials and Methods: At first, purification of crocetin from saffron was performed. Then breast cancer was induced by intraperitoneal injection of NMU (50 mg/kg BW) at different ages of rats. The animals were weekly weighed and palpated for record the number, location and size of tumors. After appearance of tumors (1.5 cm), treatment was began by i.p. injection of four effective doses of crocetin with 7-day intervals. Then all mammary tumors and normal mammary glands were dissected, immediately frozen and stored at -70 for RT-PCR and Western blot analysis.
Results: The results showed that crocetin markedly decreased the increased expression of cyclin D1 due to NMU injection. Thus, crocetin suppresses tumor growth through the down-regulation of cyclinD1 expression.
Keywords: Saffron, Crocetin, Breast cancer, N-nitroso-N-methylurea(NMU), Cyclin D1

P-3-74770–Testis histological changes induced bycisplatin administration in Balb/c mice

Sima Jahanbakhshi, Nasser Mahdavi-Shahri, MasoudFereidoni, MortezaBehnam-Rassouli
Department of Biology, Faculty of Science, Ferdowsi University of Mashhad, Mashhad, Iran.

Background: A wide range of environmental and genetical factors areinvolved in infertility includingchemotherapeutic drugs, antibiotics, toxins, pollution, radiation, stress and lack of vitamins.Chemotherapeutic dosage of cisplatin impairs spermatogenesis and ultimately causesazoospermia and infertility in some men.This study investigates the short-term effects of cisplatin, which is widely used for chemotherapy, on the testes histology and spermatogenesis in mice.
Materials & Methods: Male mice aging 8-12 weeks(25-30 gr) were divided into two groups: (1) control, (2) Cisplatin-which ip injected for five days as 2.5 mg/kg.7days after, the end of treatment, body and testicular weights and histopathological changes were evaluated.
Results: The body weights of group 2 was signifigantly reduced (p-0.05), also the microscopic observations indicated that the diameter of seminiferous tubules and epithelial thickness was diminished (p-0.05),on the other hand, the diameter of tubuls lumen was increased.
Conclusions: We can conclude that this drug can not differentiate between cancerous and the normal cells. So mitotic cells such as spermatogonum also can affect with it.Cisplatin can affect spermatogenesis and spermatogenic cells possibly via free radicals production.
Keywords: Cisplatin, testes, spermatogenesis,free radicals

P-3-91126-An Efficient Synthesis of 1,2-Dihydroisoquinoline Derivatives as Biochemical Compounds

Sami Sajjadifar*, Sobhan Rezayati
Department of Chemistry, Payame Noor University, PO BOX 19395-4697 Tehran, Iran

Background: Isoquinoline reacts with dialkyl acetylenedicarboxylate in the presence of **N**-phynylcarbamates or amides to produce dialkyl 2-[1-((alkoxycarbonyl)aniline)-2(1H)-isoquinolinyl]-2-butenedioates and dialkyl 2-[1-((alkyl)amino]-2(1H)-isoquinolinyl]-2-butenedioates good. The mild reaction conditions and high yields of the products are advantages of this method. The Isoquinoline skeleton is found in a large number of naturally occurring and synthetic biologically active heterocyclic compounds [1]. In particular, 1,2-dihydro quinoline derivatives act as delivery systems that transport drugs through the otherwise highlyimpermeable blood–brain barrier [2]. These compounds also exhibit sedative [3], antidepressant [4], antitumor, and antimicrobial activities.
Materials & Methods: To a magnetically stirred mixture of *N*-phenyl carbamate and dialkyl acetylenedicarboxylatewas slowly added isoquinoline, and the reaction mixture was stirred for 6 h at RT. After completion of the reaction (indicated by TLC), the residue was purified by chromatography using an *n*-hexane:AcOEt mixture (5:1) to afford the pure adducts.
Results and Discussion: The reaction of isoquinoline, *N*-phenyl carbamates, and dialkyl acetylenedicarboxylate proceeds smoothly under solvent-free conditions at room temperature to produce dialkyl 2-[1-((alkyl carbonyl) aniline)-2(1H)-isoquinolinyl]-2-butenedioates derivatives in 75–85% yields.
Conclusions: The products were characterized on the basis of their data spectra. The mass spectra of compounds displayed molecular ion peaks at appropriate values, which were consistent with 1:1:1 adducts of isoquinoline, *N*-phenyl carbamates and the dialkyl acetylenedicarboxylate.
Keywords: Biochemical Synthesis,Acetylenedicarboxylates, N-heterocycles, Amide, N-phynylcarbamates.