Les productions scientifiques : 1990-1999

1- Characterization and locus assignment of two alpha-globin variants present in the Maltese population: Hb St. Luke's [alpha95(G2)Pro-->Arg] and Hb Setif [alpha94(G1)Asp-->Tyr].

By: Bezzina Wettinger, S; Galdies, R; Scerri, C; et al.
Hemoglobin Volume: 23 Issue: 2 Pages: 145-57 Published: 1999-May

Two types of alpha-globin variants were found in 0.2% of a large number of newborn from Malta. The two hemoglobins were identified from tryptic maps on a Vydac C18 column and by alpha-globin gene sequencing as Hb St. Luke's (isoelectric point = 7.18+/-0.017) and Hb Setif (isoelectric point = 7.26+/-0.010). Hb St. Luke's [alpha95(G2)Pro-->Arg] was found to result from a C-->G mutation at the second position of codon 95 on an alpha1-globin gene, and Hb Setif [alpha94(G1) Asp-->Tyr] resulted from a G-->T mutation at the first position of codon 94 on an alpha2-globin gene. Quantification of Hb St. Luke's (11.1+/-1.12%) and Hb Setif (14.7+/-2.22%) in peripheral blood hemolysates indicated that, in the absence of either an alpha- or a beta-thalassemia allele, the protein products of the alpha1- and alpha2-globin genes were nearly equal in quantity.

2- Characterization and locus assignment of two alpha-globin variants present in the Maltese population: Hb St. Luke's [alpha 95(G2)Pro -> Arg] and Hb Setif [alpha 94(G1)Asp -> Tyr]

By: Wettinger, SB; Galdies, R; Scerri, C; et al.
HEMOGLOBIN Volume: 23 Issue: 2 Pages: 145-157 Published: MAY 1999

Two types of alpha-globin variants were found in 0.2% of a large number of newborn from Malta, The two hemoglobins were identified from tryptic maps on a Vydac C-18 column and by alpha-globin gene sequencing as Hb St. Luke's (isoelectric point = 7.18 +/- 0.017) and uh Setif (isoelectric point = 7.26 +/- 0.010), Hb St. Luke's [alpha 95(G2)Pro --> Arg] was found to result from a C --> G mutation at the second position of codon 95 on an alpha 1-globin gene, and uh Setif [alpha 94(G1) Asp --> Tyr] resulted from a G --> T mutation at the first position of codon 94 on an alpha 2-globin gene, Quantification of Hb St. Luke's (11.1 +/- 1.12%) and Hb Setif (14.7 +/- 2.22%) in peripheral blood hemolysates indicated that, in the absence of either an alpha- or a beta-thalassemia allele, the protein products of the alpha 1- and alpha 2-globin genes were nearly equal in quantity.

3- Hemoglobin Setif [alpha 94(G1)As -> Tyr] compromises the measurement of glycated Hb by 2-amino boronate affinity chromatography, but not of Hb A1c by ion exchange chromatography.

By: Duncan, A; Hoyer, JD; Fairbanks, VF; et al.
BLOOD Volume: 92 Issue: 10 Supplement: 1 Pages: 29B-29B Part: 2 Meeting Abstract: 3099 Published: NOV 15 1998

4- French Algeria - The repression at Setif

By: Mourot, P
HISTORIA Issue: 619 Pages: 9-9 Published: JUL 1998

5- Analysis of the performances of the first-order two-state Markov model using solar radiation properties

By: Maafi, A; Adane, A
RENEWABLE ENERGY Volume: 13 Issue: 2 Pages: 175-193 Published: FEB 1998

The first-order two-state Markov chains have been used for modelling daily sunshine duration and global solar radiation data, recorded in Reading (United Kingdom), Kuwait-City (Kuwait) and various locations in Algeria (i.e., Algiers, Batna, Oran and Setif) during periods of 8-21 years. In a different way, these data were represented by a model based on the observation of two independent states. called "bad weather" and "fine weather", respectively. In comparing both models, similarities are, respectively, found between the long-term Markovian and a priori probabilities of having one of both states, the Markovian and arithmetical computations of the mean, the one-day lag autocorrelation and persistence coefficients. The identity between the long-term Markovian and a priori probabilities means that the steady state of the first-order two-state Markov process is described by a Bernoulli random variable. If the identities mentioned above are proved for other locations in the world, they could supplement the statistical tests of validity of this type of Markov models. For instance, it is shown that the properties involved by the limiting distribution of first-order two-state Markov chains, are useful for sizing stand-alone photovoltaic systems in Algiers and for analyzing their performances.

6- Characterisation and locus assignment of two alpha-globin variants found in the Maltese population: Hb St Luke's [alpha(2)95(G2)PRO->ARG beta(2)] and Hb Setif [alpha(2)94(G1)ASP->TYR beta(2)].

By: Wettinger, SB; Galdies, R; Scerri, CA; et al.
BLOOD Volume: 90 Issue: 10 Supplement: 1 Pages: 2860-2860 Part: 2 Published: NOV 15 1997

7- Hb Setif [alpha 94(G1)Asp->Tyr] in Malta

By: Borg, I; Valentino, M; Fiorini, A; et al.
HEMOGLOBIN Volume: 21 Issue: 1 Pages: 91-96 Published: 1997

8- Excavations in Setif 1977-1984 - French - Mohamedi,A, Benmansour,A, Amamara,AA, Fentress,E

By: Hurst, H
AMERICAN JOURNAL OF ARCHAEOLOGY Volume: 100 Issue: 1 Pages: 195-196 Published: JAN 1996

9- THE SACRILEGE OF MAY + 1945 CELEBRATIONS OF VICTORY IN EUROPE AND SETIF MASSACRE IN ALGERIA

By: LAMBLARD, JM
EUROPE-REVUE LITTERAIRE MENSUELLE Volume: 73 Issue: 796-97 Pages: 115-132 Published: AUG-SEP 1995

10- LASER FLASH ABSORPTION-SPECTROSCOPY STUDY OF FERREDOXIN REDUCTION BY PHOTOSYSTEM-I - SPECTRAL AND KINETIC EVIDENCE FOR THE EXISTENCE OF SEVERAL PHOTOSYSTEM-I FERREDOXIN COMPLEXES

By: SETIF, PQY; BOTTIN, H
BIOCHEMISTRY Volume: 34 Issue: 28 Pages: 9059-9070 Published: JUL 18 1995

The existence of three first-order phases has been previously reported for the reduction of soluble ferredoxin by photosystem I (PSI), both from the cyanobacterium Synechocystis sp. PCC 6803 (at pH 8 and in the presence of salts) [Setif, P. Q. Y., & Bottin, H. (1994) Biochemistry 33, 8495-8504]. The spectra of these three phases (t(1/2) < 1 mu s, = 13-20 and 103-123 mu s) have been measured between 460 and 600 nm. All of them are fully consistent with electron transfer from (F-A,F-B)(-), the terminal 4Fe-4S accepters of PSI, to ferredoxin, Though the three spectra deviate significantly from the spectrum that can be calculated independently for this process, their sum closely matches the calculated spectrum. A detailed examination of these deviations indicates that the intermediate (13-20 mu s) and slow (103-123 mu s) first-order phases are associated with two distinct ferredoxin-binding sites on PSI. Under the same conditions, a fourth phase of negative amplitude is also observed in the 460-600 nm region, It is ascribed to reoxidation of reduced ferredoxin by an unknown species. The kinetic properties of this process show that it is triggered by collision of free ferredoxin with a preformed PSI-ferredoxin complex, Taking this reaction into account, it is shown that the relative proportions of the three first-order phases of ferredoxin reduction do not depend upon the ferredoxin concentration, indicating that the different sites of ferredoxin binding are mutually exclusive, The kinetics of ferredoxin reduction were also studied at pH 5.8, in the absence of salts. Under these conditions, the affinity of ferredoxin for PSI is much higher than at pH 8 (dissociation constant approximate to 0.05 mu M versus 0.6 mu M) and the kinetics of ferredoxin reduction are much faster (a major submicrosecond phase and a single first-order microsecond phase with t(1/2) approximate to 9 mu s), whereas a third, slower first-order phase is essentially absent, Two similar first-order components are found for the reduction of spinach ferredoxin by PSI from Synechocystis at pH 8, though the apparent dissociation constant for the latter system is larger (approximate to 5 mu M). Despite the different affinities of spinach and Synechocystis ferredoxins for the cyanobacterial PSI, similar second-order rate constants are found in both cases at pH 8 [(2-6) x 10(8) M(-1) s(-1)].

11- [The distribution of abnormal hemoglobins in the silk road region of China].

By: Li, H; Zhao, X; Li, L
Zhonghua yi xue za zhi Volume: 75 Issue: 5 Pages: 280-3, 319-20 Published: 1995-May

215,785 individuals living in the Silk Road region of China were surveyed for abnormal hemoglobins (Hbs). Among them, 695 carriers were detected. The average incidence of abnormal Hbs was 3/22 and the frequencies of abnormal Hbs among 12 nationalities reached 0.15/1000-12.17/1000. The primary structural analyses were made in 271 persons, and 24 variants [13 alpha-chain variants and 11 beta-chain variants] were identified. HbJ Tashikuergan and Hb Tianshui were discovered the first time in the world. HbS, Hb Bunbury, Hb Setif and HbI Philadelphia were not found previously in the Chinese population. Three variants, i.e. HbD Punjab, HbG Taipei and HbG Coushatta occurred at the highest frequencies and showed a gradient distribution along the Silk Road, suggesting that they may originate from Caucasians in Central Asia, Han in the Yellow River valley, and the ancient nomadic minorities of China in Mongolia Plateau respectively. The frequencies of other variants were quite low. Some were probably imported from other countries and areas, and some arose from independent mutations. The data from many variants support the movements of various populations in this area, as reported in numerous historical documents. It is indicated that the Silk Road promoted the national fusion among the Chinese nationalities, Mongolian and Caucasian races.

12- Phytosociology and typology of habitats of the upper valley of Oued Bou-Sellam (Setif, Algeria)

By: Kaabeche, M; Gharzouli, R; Gehu, JM
Edited by: Gehu, JM
Conference: 37th Symposium of the International-Association-for-Vegetation-Science on Large Area Vegetation Surveys Location: BAILLEUL, FRANCE Date: 1994 Sponsor(s): Assoc Int Etude Vegetat; Amicale Francophone Phytosociol; Federat Int Phytosociol
LARGE AREA VEGETATION SURVEY Book Series: COLLOQUES PHYTOSOCIOLOGIQUES Volume: 23 Pages: 531-557 Published: 1995

13- SOURCES OF CYCLOCONIUM-OLEAGINUM (CAST) CONIDIA FOR INFECTION OF OLIVE LEAVES AND CONDITIONS DETERMINING LEAF-SPOT DISEASE DEVELOPMENT IN THE REGION OF SETIF, ALGERIA

By: GUECHI, A; GIRRE, L
MYCOPATHOLOGIA Volume: 125 Issue: 3 Pages: 163-171 Published: MAR 1994

In the region of Setif, peacock leaf spot disease caused by Cycloconium oleaginum was found to be most prevalent in the period from late autumn to spring and of minor significance in the period from the beginning of July until the middle of November. Severity of infection on the lower parts was greater than on the upper parts of the trees. Damage on leaves facing north was much greater than on those facing south. Production of conidia leaf spots was found to be high in spring and late autumn but very low in summer and early autumn. Temperatures from 15 to 18 degrees C were found optimal for the growth of the fungus. Reduced growth was seen at 3, 1 and 25 degrees C with total inhibition at 30 degrees C. Our results suggest that fallen leaves play no role in new infections and the role of the remaining spots on the tree during summer is of little importance. Four phases for the infection of new leaves were determined. In the first, during late spring, three newly opened pairs of leaves were infected, this infection remains hidden until late autumn. The second phase occurs in early autumn after

rain. The third stage in late autumn and in the beginning of winter is characterized by the occurence of new leaf spots which are usually concentrated on the basal pair of newly grown leaves. The fourth phase of infection, at the beginning of spring, is the most important of all. The infected leaves at this stage, comprise the infection source for all the following stages.

14- THE ECOLOGICAL STUDY OF CHRYSOMELIDAE (O, COLEOPTERA) IN THE REGION OF SETIF (NORTHEAST OF ALGERIA)

By: BOUNECHADA, M
Book Group Author(s): UNIV GENT
Conference: 46th International Symposium on Crop Protection Location: GHENT, BELGIUM Date: MAY 03, 1994
46TH INTERNATIONAL SYMPOSIUM ON CROP PROTECTION, PROCEEDINGS, VOLS 1-4 Book Series: INTERNATIONAL SYMPOSIUM ON CROP PROTECTION, PROCEEDINGS Volume: 59 Issue: 2A Pages: 243-250 Published: 1994

15- DOUBLE-REDUCTION OF A(1) ABOLISHES THE EPR SIGNAL ATTRIBUTED TO A(1-) - EVIDENCE FOR C2 SYMMETRY IN THE PHOTOSYSTEM-I REACTION-CENTER

By: HEATHCOTE, P; HANLEY, JA; EVANS, MCW
BIOCHIMICA ET BIOPHYSICA ACTA Volume: 1144 Issue: 1 Pages: 54-61 Published: AUG 16 1993

Illumination of Photosystem I preparations at room temperature at pH 10.0 in the presence of dithionite has been shown to double-reduce the bound phylloquinone electron acceptor A1 (Setif, P. and Bottin, H. (1989) Biochemistry 28, 2689-2697). The asymmetric EPR signal (g = 2.0048, DELTAH ptp = 0.95 mT) photo-accumulated by illumination of Photosystem I at 205 K is removed by such treatment, confirming the attribution of this EPR signal to A1-. Photoaccumulation of A0- and A1- EPR signals at 230 K in Photosystem I frozen at pH 10.0 approaches a maximum of 4 spins per P700+, suggesting that Photosystem I exhibits the C2 symmetry of other types of photosynthetic reaction centre.

16- FORWARD ELECTRON-TRANSFER FROM PHYLLOQUINONE-A(1) TO IRON-SULFUR CENTERS IN SPINACH PHOTOSYSTEM-I

By: SETIF, P; BRETTEL, K
BIOCHEMISTRY Volume: 32 Issue: 31 Pages: 7846-7854 Published: AUG 10 1993

Forward electron transfer at room temperature from the secondary acceptor A1 (phylloquinone) to the iron-sulfur centers F(X), F(B), and F(A) was studied by flash-absorbance spectroscopy in different photosystem I (PSI) preparations in order to resolve the controversy concerning the kinetics of A1- reoxidation during forward electron transfer [half times of 15 ns [Mathis, P., & Setif, P. (1988) FEBS Lett. 237, 65-68] and 200 ns [Brettel, K. (1988) FEBS Lett. 239, 93-98] were reported for PSI particles from spinach and Synechococcus sp., respectively]. The monophasic kinetics with t1/2 almost-equal-to 200 ns could be reproduced with PSI particles from another cyanobacterium (Synechocystis sp. PCC

6803). In so-called PSI-beta particles from spinach, containing all membrane-bound electron carriers and approximately 65 antenna chlorophylls per reaction center, the flash-induced absorbance increase around 370 nm, which is indicative of the formation of A1-, decays biphasically with t1/2 almost-equal-to 25 and 150 ns and relative amplitudes of approximately 65 and 35%, respectively. The difference spectra of these two phases were determined between 330 and 500 nm; they agree well below 380 nm but deviate significantly at higher wavelengths. The spectrum of the sum of the two phases is similar to the spectrum of the 200-ns phase in cyanobacteria. Upon chemical reduction of the terminal acceptors F(A) and F(B), only the 25-ns phase is conserved and the absorbance changes remaining after its completion decay with t1/2 almost-equal-to 250 mus. It is concluded that the 25-ns phase reflects electron transfer from A1- to F(X) in approximately 65% of the centers, whereas the remaining 35% of A1- is reoxidized with t1/2 almost-equal-to 150 ns under moderate redox conditions. The deviations between the spectra of the two phases can be explained with the assumption that electron transfer from F(X-) to (F(A), F(B)) also proceeds with t1/2 almost-equal-to 150 ns and contributes significantly to the total spectrum of the 150-ns phase, implying that the F(X-)/F(X) difference spectrum deviates from the (F(A),F(B))-/(F(A),F(B)) Spectrum. Possible kinetic schemes for forward electron transfer in PSI-beta particles are discussed; assuming that the 25-ns phase reflects the establishment of a redox equilibrium between reduced A1 and F(X), the redox potentials of A1 and F(X) are found to be very close. Different types of PSI particles from spinach, which were subjected to less harsh preparation procedures, also exhibit a biphasic reoxidation of A1- but smaller relative amplitudes of the 25-ns phase, down to only 30% for a sample prepared without detergent. It is suggested that PSI in native spinach membranes could behave similarly to the cyanobacterial PSI particles.

17- CHARGE RECOMBINATION BETWEEN P700+ AND A1- OCCURS DIRECTLY TO THE GROUND-STATE OF P700 IN A PHOTOSYSTEM-I CORE DEVOID OF FX, FB, AND FA

By: WARREN, PV; GOLBECK, JH; WARDEN, JT
BIOCHEMISTRY Volume: 32 Issue: 3 Pages: 849-857 Published: JAN 26 1993

The charge recombination between P700+ and electron acceptor A1- was studied by flash kinetic spectroscopy in a photosystem I core devoid of iron-sulfur centers F(X), F(B), and F(A). We showed previously that the majority of the flash-induced absorption change at 820 nm decayed with a 10-mus half-time, which we assigned to the disappearance of the P700 triplet formed from the backreaction of P700+ with A1-[Warren, P. V., Parrett, K. G., Warden, J. T., & Golbeck, J. H. (1990) Biochemistry 29, 6545-6550]. We have reinvestigated this assignment in the near-UV, blue, and near-IR wavelength regions. The difference spectrum from 380 to 480 nm and from 720 to 910 nm shows that the P700+ A1- charge recombination is dominated by the P700 cation rather than the P700 triplet. Accordingly, the 10-mus kinetic transient represents the direct backreaction of P700+ with A1-, which repopulates the ground state of P700. This is unlike a P700-F(A)/F(B) complex where, in the presence of reduced F(X)-, F(B)-, and F(A)-, the P700+ A1- charge recombination populates the P700 triplet state [Setif, P., & Bottin, H. (1989) Biochemistry 28, 2689-2697]. The A1 acceptor is highly susceptible to disruption by detergents in the absence of iron-sulfur center F(X). The addition of 0.1% Triton X-100 to the P700-A1 core leads to a approximately 2.5-fold increase in the magnitude of the flash-induced absorption change at 780 nm; thereafter, 85% of the absorption change decays with a 25-ns half-time and 15% decays with a 3-mus half-time. The spectrum of the 25-ns phase is a convolution of contributions from both P700+

and A0-. When the P700+ spectrum is subtracted, the spectrum of A0-displays a maximum at 760 nm and doublet minima at 412 and 438 nm and has an extinction coefficient 1.4 and 1.8 times that of P700+ at 438 and 790 nm, respectively. The spectrum of the 3-mus kinetic phase shows a broad absorption increase between 730 and 820 nm accompanied by a broad bleaching between 390 and 450 nm, consistent with the decay of the P700 triplet formed in low quantum yield from the backreaction of P700+ with A0-. The rise time of the P700 triplet was measured to be approximately 25 ns, a value identical to that of the P700+ A0- charge recombination.

18- DIAGNOSIS OF VARIETAL BEHAVIOR OF DURUM-WHEAT IN THE HIGH-PLAINS OF THE SETIF

By: HAFSI, M; BOUZERZOUR, H
Edited by: Monneveux, P; BenSalem, M
Conference: Seminar on Tolerance of Grains in the Mediterranean Area: Genetic Diversity and Varietal Improvement Location: MONTPELLIER, FRANCE Date: DEC 15-17, 1992 Sponsor(s): INRA. MONTPELLIER CTR; ECOLE NATL SUPERIEURE AGRONOM MONTPELLIER
DROUGHT TOLERANCE OF GRAINS IN THE MEDITERRANEAN AREA: GENETIC DIVERSITY AND VARIETAL IMPROVEMENT Book Series: COLLOQUES DE L INRA Volume: 64 Pages: 205-215 Published: 1993

19- INVENTORY AND STUDY OF ADVENTITIOUS FLORA IN THE HIGHLAND CEREAL CULTIVATIONS OF SETIF (NORTHEASTERN ALGERIA)

By: FENNI, M
Book Group Author(s): UNIVERSITEIT GENT
Conference: 45th International Symposium on Crop Protection Location: GHENT, BELGIUM Date: MAY 04, 1993
MEDEDELINGEN VAN DE FACULTEIT VAN DE LANDBOUWWETENSCHAPPEN, VOL 58, PTS 2A, 2B, 3A, 3B, 1993 Book Series: INTERNATIONAL SYMPOSIUM ON CROP PROTECTION, PROCEEDINGS Volume: 45 Pages: 1003-1012 Part: 1-4 Published: 1993

20- DIRECT ASSIGNMENT OF VITAMIN-K1 AS THE SECONDARY ACCEPTOR-A1 IN PHOTOSYSTEM-I

By: SNYDER, SW; RUSTANDI, RR; BIGGINS, J; et al.
PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA Volume: 88 Issue: 21 Pages: 9895-9896 Published: NOV 1991

The characteristic electron spin polarized electron paramagnetic resonance (ESP EPR) signal observed in photosystem I (PSI) has been previously assigned to a radical pair composed of the oxidized primary donor and a reduced vitamin K1. Under conditions in which Bottin, H. & Setif, P. [(1991), Biochim. Biophys. Acta 105, 331-3361 proposed that A1 is doubly reduced, the ESP EPR signal was not observed. Therefore, the ESP EPR signal can be directly

attributed to A1-, and vitamin K1 can be assigned as this PSI acceptor. The ESP EPR signal was partially restored by removal of the chemical reductants.

21- DISCOVERY OF MIDDLE LIAS AT THE BASE OF THE CONSTANTINE NERITIC NAPPE, IN THE TECTONIC WINDOW OF DJEBEL TIMETLASS (ALPINE BELT OF EASTERN ALGERIA)

By: VILA, JM; LAHONDERE, JC
COMPTES RENDUS DE L ACADEMIE DES SCIENCES SERIE II Volume: 313 Issue: 1 Pages: 77-82 Published: JUL 4 1991

In the East Algerian High Plains, half-way between Setif and Constantine, study of the Djebel Timetlass tectonic window shows a new Lower Miocene outcrop under the Constantine Neritic Nappe. This discovery allows us to determine the horizontal organization of the abnormal basal contact. Probably a lower duplex the outcrop contains a limestone platform sequence from the Middle Lias (dated particularly by Orbitopsella praecursor and Palaeodasycladus mediterraneus and here described for the first time), to the Upper Jurassic-Neocomian. Comparisons are possible especially with the South Setifian Thrust Slices located more to the West. These new observations, 15 km behind the frontal thrust, suggest that the Constantine Neritic Nappe keeps probably its large overlap towards the West.

22- INHIBITION OF ELECTRON-TRANSFER FROM A0 TO A1 IN PHOTOSYSTEM-I AFTER TREATMENT IN DARKNESS AT LOW REDOX POTENTIAL

By: BOTTIN, H; SETIF, P
BIOCHIMICA ET BIOPHYSICA ACTA Volume: 1057 Issue: 3 Pages: 331-336 Published: MAY 6 1991

Electron transfer reactions in Photosystem I (PS I) were investigated by flash-absorption spectroscopy under highly reducing conditions in the cyanobacterium Synechocystis PCC 6803. Under strong illumination, the inhibition of electron transfer from A0- to A1 has been previously put forward and was attributed to the double reduction of phylloquinone (Setif, P. and Bottin, H. (1989) Biochemistry 28, 2689-2697). The same inhibition, characterized by the appearance of fast recombination kinetics between P-700+ and A0- (t1/2 = 40 ns) is found, in the present work, to be induced in the dark, when Photosystem I is incubated at a very low redox potential (below -550 mV) in the presence of low-potential redox mediators. The kinetics of appearance of this inhibition process are studied at various pH values and redox potentials, in the presence of different mediators. The inhibition is found to be slowly induced (from minutes to hours) and is slowly reversible at potential values above -350 mV. These results are interpreted by assuming that phylloquinol (the inhibiting species) can be formed in the dark as well as under illumination. They also indicate that in Photosystem I, the redox potential of the semiphylloquinone/phylloquinol couple is higher than that of the phylloquinone/semiphylloquinone couple.

23- HEMOGLOBIN AGGREGATION AND PSEUDOSICKLING INVITRO OF HEMOGLOBIN SETIF-CONTAINING ERYTHROCYTES

By: NOGUCHI, CT; MOHANDAS, N; BLANCHETTEMACKIE, J; et al.
AMERICAN JOURNAL OF HEMATOLOGY Volume: 36 Issue: 2 Pages: 131-139 Published: FEB 1991

Erythrocytes from individuals heterozygous for hemoglobin Setif (alpha-94 Asp --> Tyr) sickle in vitro without deoxygenation when incubated in chloride buffer due to hemoglobin aggregation. We now report quantitative studies of hemoglobin polymerization and deformability in these cells. Hemoglobin polymer gradually increased in intact cells during a 24 h incubation period at 24-degrees-C. After 24 hr, about 80% of the cells in 290 mOsm sodium chloride buffer contained polymer which appeared as short rods compared to > 99% containing polymer at 450 mOsm. Similar proportions of cells were morphologically sickled. Deformability of erythrocytes with 40% hemoglobin Setif incubated in 290 mOsm buffer at 37-degrees-C decreased to 80% of normal by 210 min but in 450 mOsm decreased to 50% after only 30 min as measured by the ektacytometer. However, at 4-degrees-C deformability remained normal even in 450 mOsm buffer. The solubility of gelled hemolysate containing 40% hemoglobin Setif was 24 g/dl and 21 g/dl at 290 and 459 mOsm buffer respectively. The gel persisted at 4-degrees-C with a solubility of 26 g/dl, but melted when dialyzed into sodium phosphate or potassium phosphate buffer. These data suggest that hemoglobin polymerization, reduced deformability, and sickling of hemoglobin Setif-containing erythrocytes are related to reduced hemoglobin solubility. The rate and extent of intracellular polymerization in vitro are considerably reduced (as in the case of sickle trait) compared with erythrocytes from individuals with sickle cell anemia. Hence, the slower kinetics of hemoglobin aggregation in hemoglobin Setif-containing cells provide an alternate system for studying hemoglobin polymerization and abnormal rheology.

24- CANCER INCIDENCE IN THE WILAYA OF SETIF, ALGERIA

By: HAMDICHERIF, M; SEKFALI, N; COLEMAN, MP
BULLETIN DU CANCER Volume: 78 Issue: 2 Pages: 155-167 Published: 1991

Preliminary results are presented for a general population-based cancer registry in Setif, Algeria, for 1986-88. Standardised incidence rates for all sites, excluding non-melanoma skin cancer, are 70.1 for men and 59.9 for women: these rates are lower than those reported for most populations. The most frequent cancers are lung, stomach and liver in men, and cervix, liver and breast in women. Nasopharyngeal carcinoma is frequent in both sexes. Incidence of cancers of the gallbladder and extrahepatic bile ducts in women appears particularly high. These results represent the first detailed incidence data for all cancers in an Algerian population.

25- 6 RARE HEMOGLOBIN-VARIANTS FOUND IN SICILY

By: SCHILIRO, G; RUSSOMANCUSO, G; DIBENEDETTO, SP; et al.
HEMOGLOBIN Volume: 15 Issue: 5 Pages: 431-437 Published: 1991

26- PHOTOSYSTEM-I PHOTOCHEMISTRY UNDER HIGHLY REDUCING CONDITIONS - STUDY OF THE P700 TRIPLET-STATE FORMATION FROM THE SECONDARY RADICAL PAIR (P700+-A1-)

By: SETIF, P; BRETTEL, K
BIOCHIMICA ET BIOPHYSICA ACTA Volume: 1020 Issue: 3 Pages: 232-238 Published: DEC 6 1990

The photochemistry of spinach Photosystem I reaction centers has been studied under conditions of prereduced iron-sulfur centers Fe-S(A), Fe-S(B) and Fe-S(X) by flash absorption spectroscopy in the UV, blue and near-IR regions. Two kinetic phases are observed under such conditions, with t1/2 almost-equal-to 250 ns and 4-5 mu-s. From the spectral analysis of these two phases including the comparison with flash-induced absorption data obtained under moderately and strongly reducing conditions, the following conclusions were derived: the 250 ns phase corresponds to a recombination reacition between P700+ -A1- forming 3P700 with a yield close to one. This triplet state then decays with t1/2 almost-equal-to 4-5 mu-s. These results provide direct evidence for the reaction scheme: P700+ -A1- --> 3P700 under highly reducing conditions. The same reaction was proposed to occur in a preceding paper (Setif, P. and Bottin, H. (1989) Biochemistry 28, 2689-2697), but the halftime of the recombination reaction was then overestimated (750 ns). It is also found that the same reaction is occurring in reaction centers from the two cyanobacteria Synechococcus sp. and Synechocystic 6803.

27- Hemoglobina Setif (alpha 94 (G1) Asp----Tyr) en una familia espanola. [Hemoglobin Setif (alpha 94 (G1) Asp----Tyr) in a Spanish family].

By: de Pablos, J M; de las Nieves, M A; Romero, A; et al.
Sangre Volume: 35 Issue: 3 Pages: 201-4 Published: 1990-Jun

A family was studied who carried a slow mobility haemoglobin on cellulose acetate electrophoresis at pH 8.6. The structural analysis of the anomalous globin chain showed substitution of residual aspartic acid in position 94 of the alpha chain by tyrosine (Hb Setif). This mutation induces low oxygen affinity in the haemoglobin molecule plus instability of the tetramer in the oxy conformation. Such haemoglobin has been found in North-African populations, and the case presented here is the first one reported in Spain.

28- Evaluation de la consommation du tabac dans le monde scolaire dans la Wilaya de Setif. [Evaluation of tobacco consumption in grade school in Wilaya de Setif].

By: Hamdi-Cherif, M; Kermi, S; Mahnane, A
Hygie Volume: 9 Issue: 1 Pages: 24-8 Published: 1990-Mar

As most developing countries, Algeria does not seem to have escaped the tobacco epidemic raging around the world. Tobacco there has become one of the principal causes of death and illness. To confront this alarming situation, preventive measures have been taken. In particular, an epidemiological investigation of tobacco consumption was conducted among grade-school students in the Wilaya de Setif during the 1986-87 academic year. The fundamental data on tobacco dependency in grade school was obtained. 1,771 students from 12 to 20 years of age were polled through individual and anonymous questionnaires. The dimensions of this scourge were thus revealed: 18% of these students are smokers. The majority (97%) are boys. Smoking begins early, after age 10, with a high point at 14. To face this situation, a National Committee Against Tobacco was introduced by the Ministry of

Public Health. A grade school programme is in the planning. The following proposals were made: to inform, widely and objectively, the grade-school population, the teachers and the parents; to take action above all in the primary schools, which constitute an ideal setting to reach these children, who are potential smokers, before they become long-term smokers.