

21-01-2024, Querétaro, México.

**Dear Drs.  
University Autonomous of Querétaro**

In response to your submission to the Disciplines Journal for review, in the Special Section **“Research summaries presented at the XV International Research Forum in Natural Sciences 2023, Facultad de Ciencias Naturales -Universidad Autónoma de Querétaro”**, I inform you that Editorial Board after review, has recommended the publication of the 39 enlisted summaries below, in Vol. 2- Num. 1 (15-02-2024). The electronic version of your article will be published earlier in the journal, first in postprint format and later in the publisher's version. Without further ado, I now await your comments, while I send you my best regards.



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Dra. María del Carmen Mejía Vázquez

Editor in chief

DISCIPLINES

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Research summaries presented at the XV International Research Forum in Natural Sciences 2023, Facultad de Ciencias Naturales -Universidad Autónoma de Querétaro.

**(1) Analysis of the frequency of food consumption collected by 24-hour recall in overweight and obese men residing in Querétaro**

Aguilera- Alvarez. AM.,<sup>1</sup> Elton-Puente JE. 1

<sup>1</sup> Master of Science in Human Nutrition. School of Natural Sciences. UAQ.

**(2) Bioinformatics study of the bacteriome in rats treated with a recombinant lectin from the Tepari bean (*Phaseolus acutifolius*) under a subchronic scheme.**

Araujo Mendoza, J.B., Álvarez Martínez, R., Garrido Espinoza, E., Saldaña Gutiérrez, C., Moreno Celis U., García-Gasca, T.

Master's Degree in Biological Sciences. School of Natural Sciences. Universidad Autónoma de Querétaro (*Autonomus University of Querétaro*).

**(3) Identification and characterization of the Enolase protein in *Babesia bovis* and identification of immunogenic B epitopes.**

Cárdenas Flores A<sup>1,7</sup>, Camacho Nuez M<sup>2</sup>, Ueti M<sup>3</sup>, Hidalgo Ruiz M<sup>4</sup>, Rodríguez Torres A<sup>5</sup>, Hernández Silva DJ<sup>1,5</sup>, Gómez Soto JG<sup>5</sup>, Asada M<sup>6</sup>, Kawazu SI<sup>6</sup> and Mosqueda Gualito JJ<sup>1,5</sup>

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**(4) Characterization of Translationally Controlled Tumor Protein (TCTP) and identification of conserved and immunogenic B epitopes.**

De La Cruz-González V.G <sup>1,2</sup>; Pérez-Almeida C.Q.<sup>1</sup>; Gómez-Soto J.G.<sup>3</sup>; Mosqueda J.<sup>1</sup>.

<sup>1</sup>Immunology and Vaccines Research Laboratory, School of Natural Sciences, UAQ. <sup>2</sup>Maestría en Salud y Producción Animal Sustentable, Facultad de Ciencias Naturales, UAQ. <sup>3</sup> Facultad de Ciencias Naturales, UAQ.

**(5) Acceptance and effects on anthropometry and body composition of hemp seed (*Cannabis sativa* L. subsp. *sativa*) consumption in overweight and obese adults in the city of Querétaro: preliminary results.**

Román Andrés del Ángel Hernández <sup>1</sup>, Miriam Aracely Anaya Loyola<sup>2</sup>, Olga Patricia García <sup>2</sup>

<sup>1</sup> Master's Degree in Human Nutrition Science. School of Natural Sciences, Campus Juriquilla. Universidad Autónoma de Querétaro (Autonomous University of Querétaro). Av. De las Ciencias S/N, Santa Rosa Jáuregui, Juriquilla, Querétaro.76230.

<sup>2</sup> Human Nutrition Research Department, School of Natural Sciences, Campus Juriquilla. Universidad Autónoma de Querétaro. Av. De las Ciencias S/N, Santa Rosa Jáuregui, Juriquilla, Querétaro.76230.

**(6) Preliminary results of the study evaluating the bacterial contamination of a BARF-type diet and its relationship with the presence of diarrhea in adult dogs.**

*Díaz-Hernández, JK<sup>1</sup>.*, *Méndez-Gómez-Humarán., MC<sup>1</sup>.*, *Álvarez-Mayorga, BL<sup>3</sup>.*, *Chávez-Moreno, OF<sup>1</sup>.*, *Preciado-Cortés, R<sup>2</sup>.*, *Berumen-Segura, LC<sup>3</sup>.*

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**(7) Evaluation of vaccine efficacy in cattle of chitinase peptides containing predicted B epitopes against the tick *Rhipicephalus microplus***

*Pérez-Soria, M.M. E.<sup>1</sup>*, *López-Díaz, D. G.<sup>1</sup>*, *Mosqueda, J<sup>1</sup>.*

<sup>1</sup> Immunology and Vaccines Laboratory. School of Natural Sciences UAQ.

**(8) Nutritional influence on the parasitic behavior of *Trichoderma asperellum***

*García-Sánchez, V. J.<sup>1</sup>*, *Sánchez-López K. L. <sup>2</sup>*, *Landeros-Jaime F.<sup>1</sup>*, *Cervantes-Chávez J. A.<sup>1</sup>*, *Vega-Arreguín, J. C.<sup>3</sup>* *Esquivel Naranjo, E. U<sup>1</sup>.*

<sup>1</sup>Doctorate in Biological Sciences, School of Natural Sciences UAQ. <sup>2</sup>Bachelor's Degree in Microbiology, School of Natural Sciences. UAQ. <sup>3</sup>Postgraduate Degree in Sustainability Sciences, Escuela Nacional de Estudios Superiores, UNAM.

**(9) Prevalence of HIV and syphilis obtained by rapid tests in students of the Universidad Autónoma de Querétaro.**

*García-Hernández DU*, *Estrada Martínez LE*, *Aguilar Galarza BA*

Servicio Universitario de Salud (*University Health Service*), Universidad Autónoma de Querétaro (*Autonomous University of Querétaro*).

**(10) Distribution of aboveground biomass and associated bioclimatic variables in *Pinus teocote* populations.**

*Girón-Gutiérrez, D<sup>1</sup>.*, *Cambrón-Sandoval, V.H<sup>1</sup>.*, Soto-Correa, J.C<sup>1</sup>., Méndez-González, J<sup>2</sup>., Cerano-Paredes, J<sup>3</sup>.

<sup>1</sup> Doctorate in Biological Sciences, School of Natural Sciences, UAQ<sup>2</sup>. Universidad Autónoma Agraria Antonio Narro<sup>3</sup> (*Antonio Narro Autonomous Agrarian University*), INIFAP.

**(11) Nutritional Assessment In Patients Recently Diagnosed With Colorectal Cancer: Preliminary Results.**

*Guerrero-Nieto, KM<sup>1</sup>.*, Méndez-Rojas, B.<sup>2</sup>, Hernández-Oviedo R.<sup>1</sup>, Martínez-González O.<sup>1</sup>, *García-Obregón OP<sup>2</sup>.*

<sup>1</sup>Master's Degree in Integrative Clinical Nutrition. School of Natural Sciences. UAQ.<sup>2</sup>Doctorate in Biological Sciences. School of Natural Sciences. UAQ.

**(12) Project title: “Effect of the inclusion level of potato protein concentrate on the intestinal concentration of cytokines and volatile fatty acids in weaned piglets”**

*Guevara-Galicia, A.M.*, *Bautista-Marin , S.E.*, Escobar-García, K., Reis-de Souza, T.C. Mariscal-Landín, G., Gómez-Soto, J.G.

**(13) Calorie Intake Attributable to the Consumption of Sugary Beverages in Young Women**

*López Velázquez MG*, Camacho Calderón N, Cuellar Núñez ML, *Campos Ramírez CA.*

Doctorate in Biomedical Sciences, School of Medicine, Universidad Autónoma de Querétaro (*Autonomus University of Querétaro*).

**(14) Toxoplasma gondii in small ruminants: Review.**

Martínez-Pineda LJ, *Canto-Alarcón GJ*, Vera-Avila HR, Méndez-GómezHumarán MC

Specialty in Nutrition and Reproduction of Sheep and Goats -FCN-UAQ

**(15) Blood secrets of formales: indicators of the nutritional status of the California seal.**

*Montesinos-Laffont A.I.<sup>1</sup>*; *García-Obregón O.P.*; *Acevedo-Whitehouse K.A.*

<sup>1</sup>Doctorate in Biological Sciences, School of Natural Sciences, UAQ.

**(16) Characterization of the juice and by-product of beet (*Beta vulgaris L.*) for its possible use in sports supplementation**

Novella-Erreguín JK<sup>1</sup>, Vera-Solis K<sup>2</sup>, Regalado-Rentería E<sup>1</sup>, Camacho Barron M<sup>3</sup>, E<sup>1</sup>, Vargas Madriz AF<sup>1</sup>, *Anaya-Loyola MA<sup>1</sup>*

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<sup>2</sup> School of Chemistry, Universidad Autónoma de Coahuila. Ejido El Águila, Ciudad Universitaria. Torreón, Coahuila.

**(17) Ingestion of bean (*Phaseolus vulgaris* L.) seeds and leaves reduces obesity-associated alterations by improving intestinal integrity and short-term memory in obesity-induced C57BL/6 mice.**

*Ocampo-Anguiano, P.V.*<sup>1,2</sup>, *Victoria-Ruiz, L.L.*<sup>5</sup>, *Olvera-Ramírez, A.M.*<sup>3</sup>, *Orta-Salazar, E.M.*<sup>4</sup>, *Reynoso-Camacho, R.*<sup>2</sup>, *Ramos Gómez M*<sup>2</sup> y *Ahumada-Solórzano, S.M.*<sup>1</sup>.

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<sup>2</sup> Doctorate in Food Science, <sup>5</sup> Master's Degree in Food Science. Department of Food Research and Graduate Studies, School of Chemistry, Universidad Autónoma de Querétaro. Campus Centro Universitario, Cerro de las Campanas S/N, Las Campanas, Querétaro. C.P. 76010, Mexico

<sup>4</sup> Institute of Neurobiology, Department of Developmental Neurobiology and Neurophysiology, Universidad Nacional Autónoma de México. Campus Juriquilla, Blvd. Juriquilla No. 3001., Juriquilla, Querétaro. C.P. 76230, Mexico

**(18) Management for groundwater access and distribution in the La Beata micro-watershed, Amealco, Querétaro.**

*Pérez-López, K.K*, *Carmona-Lara, M.C*<sup>1</sup>., *Dorantes-Castro, J.C.*

<sup>1</sup>Legal Sciences Research Institute, UNAM. UNAM

**(19) Preliminary results of the evaluation of the PreSynch-Ovsynch and Double-Ovsynch protocols in cows under a family milk production system**

*Ponce-Aguilar, D.*<sup>1</sup>, *Montiel-Olguín, L.J.*<sup>2</sup>, *Villaseñor-González, F.*<sup>3</sup>, *Vera-Ávila, H.R.*<sup>1</sup>, *Chávez-López, M. de J.*<sup>1</sup>, *Cantó-Alarcón, G.J.*<sup>1</sup>

<sup>1</sup>Master's Degree in Health and Sustainable Animal Production -FCN-UAQ. <sup>2</sup>CENID Animal Physiology and Improvement, <sup>3</sup> Doctorate in Biological Sciences -FCN-UAQ.

**(20) Design and Validation of a clinical nutritional screening for the diagnosis of the nutritional status of patients with post-COVID-19 syndrome.**

*Quintero-Valdez, B*<sup>1</sup>., *Rodríguez-Mendez A.J.*<sup>1</sup>, *Gallardo-Vidal L.S*<sup>1</sup>., *Aguilar-Garza, B.A*<sup>2</sup>, y *Olvera-Nemigyei, M.A*<sup>2</sup>.

Master in Medical Research terminal line Medical Education. School of Medicine. UAQ. Laboratory of Neuroimmunoendocrinology, School of Medicine. UAQ.

**(21) Influence on habit and lifestyle changes in adults during and after the pandemic.**

Ramírez-Saavedra DM<sup>1</sup>; Ronquillo-González MD<sup>1</sup>; Anaya-Loyola MA<sup>1</sup>; Rivas Callejas A<sup>1</sup>; Aguilar-Galarza A<sup>1</sup>; Rodríguez García E<sup>1</sup>

<sup>1</sup>Specialty in nutrition, physical activation and health. School of Natural Sciences, UAQ. <sup>2</sup>Master's degree in integrated clinical nutrition. School of Natural Sciences. UAQ

**(22) Carbon sequestration in semiarid ecosystems: an evaluation of solar-induced fluorescence (SIF) and satellite products**

Ramos-García J<sup>1</sup>; Cervantes-Jiménez M<sup>2</sup>; Guevara-Escobar A<sup>2</sup>; Queijeiro-Bolaños M<sup>2</sup>; Villarreal-Rodríguez S<sup>3</sup> y González-Sosa E<sup>3</sup>

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**(23) Effect of a mixture of microencapsulated essential oils on in vitro ruminal fermentation and productive behavior of finishing sheep**

Ramos-López, G.<sup>1</sup>, Silva-Jarquín, J. C.<sup>2</sup>, Reis-de Souza, T. C.<sup>2</sup>, Olvera-Ramírez, A. M.<sup>2</sup>, Gómez-Soto, J. G.<sup>2</sup>, Palós Gutiérrez, T. B.<sup>3</sup>.

<sup>1</sup>Master's Degree in Health and Sustainable Animal Production. <sup>2</sup>School of Natural Sciences-Universidad Autónoma de Querétaro (*Autonomous University of Querétaro*). <sup>3</sup>Nutryplus

**(24) Evaluation of supplementation with agroindustrial avocado residues on health status and serum metabolic parameters in rabbits, and oxidative stability and fatty acid profile of their meat**

Regalado-Rentería, Evelyn<sup>1</sup>, Álvarez Fuentes, Gregorio<sup>2</sup>, Ayala Noyola, Miriam Aracely<sup>1</sup>, De León Rodríguez, Antonio<sup>3</sup>, García López, Josué Israel<sup>4</sup>, Hernández Montiel, Hebert Luis<sup>1</sup>

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<sup>2</sup> Instituto de Investigación de Zonas Desérticas (*Desert Areas Research Institute*), Universidad Autónoma de San Luis Potosí (*Autonomous University of San Luis Potosí*). De Altair 200, Col del Llano, 78377 San Luis Potosí, S. L. P.

<sup>3</sup> Instituto Potosino de Investigación Científica y Tecnológica (*Potosino Institute of Scientific and Technological Research*), Camino a la Presa de San José 2055, Lomas 4ta Sección, 78216 San Luis Potosí, S.L.P.

<sup>4</sup> Centro de Capacitación y Desarrollo en Tecnología de Semillas (*Seed Technology Training and Development Center*), Universidad Autónoma Agraria Antonio Narro (*Antonio Narro Autonomous Agrarian University*). Calzada Antonio Narro 1923 Buenavista, Saltillo, Coahuila

**(25) Nutritional status, body composition and physical capacities in a recreational group of cyclists.**

Rivas-Callejas AG<sup>1</sup>, Aguilar Galarza BA<sup>2</sup>, Uribe Reyes I<sup>2</sup>, Ronquillo-Gonzales D<sup>1</sup>, Rodríguez-García E<sup>1</sup>, López-Martínez FJ<sup>1</sup>, Ramírez-Saavedra DM<sup>1</sup>, Anaya-Loyola MA<sup>1</sup>.

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**(26) Comparison of Equations to Estimate Body Mass and Height in Bedridden Patients at the General Hospital of Querétaro**

Sanjuan-Méndez A<sup>1</sup>, Hernández-Oviedo, R<sup>1</sup>, Ruelas-Herrera, L<sup>1</sup>, Martínez-González, O<sup>1</sup>, Regina-Ojeda Navarro, L<sup>1</sup>, Ixchel-Estrada Velasco, B<sup>1</sup>.

<sup>1</sup>Master's Degree in Integrative Clinical Nutrition. School of Natural Sciences. UAQ

**(27) Effect of hibiscus (*Hibiscus sabdariffa L.*) decoction by-product on metabolic markers in an in vivo model of type 2 diabetes mellitus.**

Serna-Tenorio, J.E.<sup>1</sup>, Reynoso-Camacho, R.<sup>2</sup>, Regalado-Rentería, E.<sup>3</sup>, García-Gutiérrez, D.G.<sup>2</sup>, Sotelo-González, A.M.<sup>2</sup>, Anaya-Loyola, M.A.<sup>1</sup> y Pérez-Ramírez, I.F.<sup>2</sup>

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<sup>2</sup>Food Postgraduate Course. School of Chemistry. <sup>3</sup>National Postdoctoral Stay – CONACYT. School of Natural Sciences. UAQ.

**(28) Orthotopic xenografts derived from childhood patients with acute lymphoblastic leukemia and their treatment with Casiopeínas®.**

Trejo-Álvarez, J.G.<sup>1</sup>; Ruiz-Azuara L<sup>2</sup>; Pelayo-Camacho, R<sup>3</sup>, Mejía-Vázquez C.<sup>1</sup>

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<sup>3</sup>School of Medicine, Posgrado UNAM. Centro de Investigación Biomédica de Oriente, IMSS Delegación Puebla

**(29) Effect of Drying Type on the Phenolic Characterization and Antioxidant Capacity of Leaves and Inflorescences of *Chenopodium berlandieri***

Vargas-Madriz, Á.F.<sup>1</sup>, Kuri-García, A.<sup>1</sup>, Luzardo-Ocampo, I.<sup>2,3</sup>, Vargas-Madriz, H.<sup>4</sup>,

Anaya-Loyola, M.A.<sup>1</sup>, Ferriz-Martínez, R.A.<sup>1</sup>, Roldán-Padrón, O.<sup>1</sup>, Chávez-Servín, J.L.<sup>1\*</sup>

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<sup>4</sup> Agricultural Production Department, Centro Universitario de la Costa Sur, Universidad de Guadalajara-UDG, Av. Independencia Nacional 151, Autlán, Guadalajara, Jalisco 48900, Mexico.

### **(30) EVALUATION OF A CHIMERIC PROTEIN AS A MULTIEPITOPIC VACCINE DESIGNED AGAINST SARS-COV 2 VARIANTS OF CONCERN**

*Velasco-Elizondo MA*<sup>\*1</sup>, Hernández-Silva DJ<sup>1</sup>, Ruiz-Manzano RA<sup>1</sup>, Vega-Rojo LJ<sup>1</sup>, Rodríguez-Torres A<sup>2</sup>, Pérez-Serrano RM<sup>3</sup>, Zaldívar-Lelo G<sup>3</sup>, García-Gasca T<sup>5</sup> Gómez-Soto J<sup>6</sup> y Mosqueda Juan<sup>1</sup>

### **(31) Evaluation of the antimicrobial effect of Bi<sub>2</sub>O<sub>3</sub> coated films in wastewater with secondary treatment**

Cárdenas-Sandoval, D.I.<sup>1</sup>, *Villasana-Rodríguez, K.*<sup>2</sup>, Mayén-Hernández S.A.<sup>3</sup><sup>1</sup> Master's Degree in Environmental Science and Technology, School of Chemistry, UAQ, <sup>2</sup> Bachelor's Degree in Biotechnology Engineering, School of Chemistry, UAQ, <sup>3</sup>Master's Degree in Energy Sciences, School of Chemistry, UAQ

### **(32) Effect of acute oral administration of recombinant Tépari bean lectin (rTBL-1) in CD-1 mice**

*Balderrama-Ocádiz, B.W.*, García-Gasca, M.T., Ferriz-Martínez, R.A., Palmerín-Carreño, D.M., Esquivel-García, R.

### **(33) Determination of the antimicrobial effect of Aquiluscidin, a cathelicidin from *Crotalus aquilus*, against *Babesia* spp.**

*Hernández-Arvizu EE*<sup>\*1</sup>, Rodríguez-Torres A<sup>1</sup>, León-Ávila GL<sup>2</sup>, Vega y Murguía CA<sup>1</sup>, Rivas-Santiago BT<sup>3</sup>, Asada M<sup>4</sup>, Kawazu SI<sup>4</sup> Mosqueda J.<sup>1</sup>

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### **(34) Transient changes in mammalian cell proliferation and viability induced by micronutrients and trace elements**



Mejía Noroña B.E<sup>1</sup>, Saldaña Gutiérrez C<sup>1,2,3</sup>, Morales Tlalpan V.<sup>2,3</sup>, Elton Puente J.E.<sup>1</sup>

<sup>1</sup>Master's Degree in Human Nutrition Science. School of Natural Sciences. UAQ.

<sup>2</sup>Laboratory of Membrane Biophysics. School of Natural Sciences, UAQ. Querétaro, Mexico. <sup>3</sup> National Laboratory for Advanced Scientific Visualization (LAVIS) FCN-UAQ-UNAM. School of Natural Sciences. Campus Juriquilla. Universidad Autónoma de Querétaro (*Autonomous University of Querétaro*). Av. De las Ciencia S/N, Santa Rosa Jáuregui, Querétaro, Mexico 76230.

**(35) Description of food consumption and its possible relationship with serum IL-6 concentrations in people with multiple sclerosis**

*Molinet-Solorzano, D<sup>1</sup>, Ferriz-Martínez R. A.,<sup>2</sup> y Rodríguez-Méndez A.J.<sup>1</sup>*

<sup>1</sup> Master of Science in Biomedicine. School of Medicine. Universidad Autónoma de Querétaro (*Autonomous University of Querétaro*).

<sup>2</sup>School of Natural Sciences, Universidad Autónoma de Querétaro.

**(36) The effect of bean leaf quelite on adaptive thermogenesis in mice**

*Morales-Rocha, C.A<sup>1</sup>; Solís-Hernández, D.A<sup>1</sup>; Ocampo-Anguiano PV<sup>1,2</sup>; Mejía-Vázquez Ma del C<sup>1</sup> and Ahumada-Solórzano, S.M<sup>1</sup>.*

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**(37) Casiopeín® Illia, expression of the N-MYC regulatory axis in neuroblastoma cells.**

*Rivera-Rico, JH<sup>1</sup>; Martínez-Pacheco, M<sup>2</sup>; Lena Ruiz-Azuara<sup>3</sup>, Mejía C<sup>2</sup>*

<sup>1</sup>Bachelor's Degree in Biology, Interdisciplinary Biomedicine Laboratory. School of Natural Sciences, Universidad Autónoma de Querétaro (*Autonomous University of Querétaro*).

<sup>2</sup>Interdisciplinary Biomedicine Laboratory. School of Natural Sciences, Universidad Autónoma de Querétaro.

<sup>3</sup>School of Chemistry, Inorganic Medicinal Chemistry Laboratory, Universidad Nacional Autónoma de México.

**(38) Effect of arnica cultivation on the soil and sustainability in traditional production systems of the La Joya micro-basin.**

*Torres-Poot, C.A; Osorno-Sánchez, T.G.*

**(39) Identification, characterization and presence of diacylglycerol acyltransferases DGAT and PDAT during postharvest mesocarp maturity in avocado (*Persea Americana Mill var. Hass*).**

Vieyra-Zarate, J.<sup>1</sup>, Solís-Hernández, D. A.<sup>1</sup>, Mendoza Zúñiga R.<sup>2</sup>, Mejía Vázquez M. C.<sup>1</sup>, Yahia Kazus, E. M.<sup>2</sup>, Ahumada-Solórzano, S. M.<sup>1</sup>

<sup>1</sup>Master's Degree in Human Nutrition Science. UAQ. CAEF Interdisciplinary Research in Biomedicine<sup>1</sup>, School of Natural Sciences, Universidad Autónoma de Querétaro (*Autonomous University of Querétaro*). Av. de las Ciencias S/N., Juriquilla, Querétaro. C.P. 76230, Mexico. <sup>2</sup>Phytochemicals Laboratory, School of Natural Sciences, Universidad Autónoma de Querétaro. Av. de las Ciencias S/N., Juriquilla, Querétaro. C.P. 76230, Mexico