Mechanisms of lipid peroxidation in meats from different animal species

by

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Iowa State University

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Summary: Free mechanisms of lipid peroxidation in meats from different animal species pdf download - the objectives of this study were 1 to determine the elements that make differences in the oxidative stability of meats from different animal species and 2 to determine the major catalysts of lipid peroxidation in meat and meat products the most important difference in the susceptibility of meat from different animal species to lipid peroxidation was the balance between anti- and pro-oxidative factors in meat raw and cooked ground beef were the most susceptible to lipid peroxidation followed by chicken thigh meat pork and chicken breast meat the high storage stability of chicken breast meat was attributed to a very low concentration of myoglobin and high total antioxidant capacity tac which prevented the release of free ionic iron from myoglobin and inhibited free radical chain reactions the high susceptibility of beef to lipid peroxidation was due to the imbalance of pro- and anti-oxidant factors caused by relatively low tac and high amount of myoglobin which served as a major source of catalysts such as ferrylmyoglobin hematin and or free ionic iron the level of lipid peroxidation catalyzed by diethylenetriamine pentaacetic acid dtpa -chelatable iron released from myoglobin in the water-soluble high molecular weight hmw fraction from beef significantly decreased with the addition of water-soluble low molecular weight lmw and waterinsoluble p fractions indicating that most of the free ionic iron released from myoglobin were chelated by lmw and p fractions therefore it is suggested that ferrylmyoglobin and or hematin rather than free ionic iron are the major catalysts of lipid peroxidation in raw beef during normal storage conditions beef showed a significantly higher level of stable ferric iron reducing capacity frc than did chicken breast under conditions that can induce the generation of sufficient amounts of free ionic iron indicating that reduced iron also played an important role in lipid peroxidation of beef

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mechanisms of lipid peroxidation in meats from different ... - mechanisms of lipid peroxidation in meats from different animal species ... factors affecting lipid peroxidation in meats from different animal species ...

myoglobin-induced lipid oxidation. a review - extensively reported in meats, as lipid peroxidation in muscle ... from different species can also differ in their ... (iii) myoglobin-induced lipid oxidation.high ...

initiation of lipid peroxidation in biological systems - initiation of lipid peroxidation in ... are believed to be manifested through mechanisms involving lipid peroxidation. ... oxygen species and activated catalysts ...

oxidative/antioxidant status of different muscles of fresh ... - products of lipid peroxidation and activities of antioxidant enzymes ... ready-to-eat uncured meats is limited ... different species [14] and ...

lipid peroxidation dependent on oxygen and catalytic free ... - lipid peroxidation dependent on oxygen and ... studies on the mechanisms of lipid peroxidation in ... t. l. kwoh, catalysts of lipid peroxidation in meats ...

oxidation during in vitro digestion of meat - oxidation during in vitro digestion of meat lin feng ... 1.3.1 mechanisms of lipid oxidation ... an outline mechanism of lipid peroxidation. ...

effect of drought stress on lipid peroxidation and proline ... - effect of drought stress on lipid peroxidation and proline content in cotton roots I ... lipid peroxidation levels, ... the journal of animal & plant sciences ...

molecular mechanisms of lipoic acid protection against ... - status, and animal species. ... and organ meats (which contain small amounts of la). ... lipid peroxidation caused by a?atoxin ...

quality and shelf-life of meat in case-ready modified ... - species, animal stress, ... matic autocatalytic mechanisms (rhee, 1988; stanley, ... many factors influence lipid peroxidation in meat, ...

mechanisms linking colorectal cancer to the consumption of ... - b laboratory for animal nutrition and animal product quality, ... oxygen species ... different potential mechanisms involved has been reviewed recently ...

prophylactic role of b vitamins against bulk and zinc ... - animal species (elder et al., 2006 ... lipid peroxidation ... prophylactic role of b vitamins against bulk and zinc oxide nano-particles toxicity induced oxidative ...

vitamin e and meat quality - researchgate - membrane lipid peroxidation is ... the rate and extent of lipid oxidation in meats are dependent ... feeding oxidized lipids to different species can result ...

effect of superoxide and superoxide-generating systems on ... - abstract mechanisms of superoxide·o2 ... and h2o2 on the catalysis of lipid peroxidation in ... the formation of reactive oxygen species, the initiator of lipid ...

protective effects of garlic oil on hepatocarcinoma ... - to investigate the protective effects and the possible mechanisms of garlic oil ... lipid peroxidation (lpo), ... ndea can induce carcinoma in all animal species as

this accepted author manuscript (aam) is copyrighted and ... - meat from different animal species. ... our body has defense mechanisms against glycation ... has tested against lipid peroxidation and their ability to prevent the ...

the contribution of animal fat oxidation products to colon ... - the contribution of animal fat oxidation products to colon ... lipid peroxidation can be initi- ... reactive oxygen species and radical intermediates, ...

the chemopreventive effect of diallyl disulphide on n ... - key words: dads - hepatocarcinogenesis - lipid peroxidation ... reported that a number of animal species ... of these metabolites on the mechanisms ...

pinar tatli seven, seval yilmaz - intechopen - pinar tatli seven 1, ... 2008). reactive oxygen species (ros) are chemically ... these radicals can damage cell membranes inducing lipid peroxidation of

effect of dietary fatty acids on serum parameters, fatty ... - (1institute of animal husbandry and veterinary science, ... the effects of different fatty acid ... the results for lipid peroxidation (measured as

risk assessment for mycotoxins in human and animal food chains - risk assessment for mycotoxins in human and animal food ... lipid peroxidation ... apart from sporadic cases of acute events which are seen in different species of ...

determination of activity of antioxidants in human subjects - evidence from biochemical and animal models suggests that nutritional ... radical species, by metabolizing lipid peroxides to ... sources are meats, ...

suppression of n-nitrosodiethylamine induced oxidative ... - suppression of n-nitrosodiethylamine induced oxidative renal toxicity by sulphatedpolysaccharide and aqueous ... like lipid peroxidation ... fried meats and in ...

peroxide. several enzymes including - orion group - peroxide. several enzymes including ... meats. 6. opc's ... has been shown to decrease lipid peroxidation, ...

clinical & experimental pathology - omics international - clinical & experimental pathology. ... increased lipid peroxidation ... species (ros) from peroxidases via the fenton reaction, ...

fermented meats and implications in human health : the ... - fermented meats and implications in human health : the microbiome connection meredith hullar, phd ... may be species specific:

basic science for the clinical electrophysiologist - products, red meats, ... increasing lipid peroxidation,12 mi- ... appears cardioprotective in several animal models of left

nutrition and mutagenesis further - annual reviews - recommends limiting the intake of red meats ... resulting in lipid peroxidation ... annual reviews • nutrition and mutagenesis 315.

syzygium aromaticum I.) and their effect of heterocyclic ... - different mechanisms scavenging ... among the other species. ... clove treatment group lowered the level of lipid peroxidation and enhanced the antioxidant ...

jmbm.1000e104 journal of metabonomics & metabolites - the role of iron in these different ... abundant in red meats and other animal ... 21. alessio hm, goldfarb ah (1988) lipid peroxidation and scavenger ...

haemato-protective and hypolipidemic effects of aqueous ... - may increase lipid peroxidation which can create many number of different mechanisms, such as free ... were obtained from animal house unit in the faculty of

alternative sources of n-3 long-chain polyunsaturated ... - alternative sources of n-3 long-chain polyunsaturated fatty ... prevent potential increase in lipid peroxidation, ... mainly found in animal-based foods (meats, ...

universitÀ degli studi di catania - unict - universitÀ degli studi di catania ... it is well known that, in red meats, ... lyst of lipid peroxidation. however, ...

effect of dietary vegetable oil combined with vitamin e ... - effect of dietary vegetable oil combined with vitamin e ... lipid composition of animal feeds can have an ... lipid peroxidation that can be prevented by ...

nutrition & food sciences - omics international - the mechanisms at the base of their toxic

effects. ... cml is also formed during lipid peroxidation ... confirmed by several animal study [17,27,28].

original article hepatoprotective effect of caffeine on ... - molecular mechanisms of the hepatopro- ... reactive oxygen species (ros), ... tiates lipid peroxidation of the cell mem-

chemistry & biology interface - cbijournal - species, curcuma longa, ... produced during lipid peroxidation ... chemistry & biology interface vol. 4 (2), march ...

osama m. ahmed1,*, ayman m. mahmoud1, sameh f. abou zid2 - ... the renal lipid peroxidation was elevated while renal glutathione ... processed meats, tobacco smoke ... pieces from the kidney of rats of different ...

2011 shamlee kulkarni - ideals - 2011 shamlee kulkarni. ... the processing of meats at the factory level can trigger the onset of lipid oxidation, ... flavour in different species of meat.

trace elements that are probably essential - ... the mechanisms involved in the absorption of ... consumed two diets containing different ... superoxide dismutase activity and lipid peroxidation in

uric acid puzzle: dual role as anti-oxidantand pro-oxidant - uric acid as anti- or pro-oxidant in different compartment ... a large population and a lack of mechanisms by ... lipid and pro-tein peroxidation and an ...

scienze e biotecnologie dei sistemi agrari e forestali e ... - ruminant meats have been suffered from a negative health image related ... important reactive oxygen species and lipid aldehydes ... lipid peroxidation. ...