

<i>Titill / Title</i>	Evaluation of antibacterial and antioxidative properties of different chitosan products		
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<i>Ágríp á íslensku:</i>	<p>Í þessari rannsókn voru kannaðir bakteríudrepani og andoxunar-eiginleikar tólf mismunandi kítósanefna frá Primex ehf. Áhrif seigju/mólpunga (150-360 KDa) og “deacetylation” stigs (A=77-78%; B=83-88%; C=96-100%) á virkni efnanna voru metin. Áhrif sýrustigs (6 og 6.5) og hitastigs (7 og 17°C) á bakteríudrepani virkni voru einnig skoðuð. Andoxunarvirkni var metin með fjórum aðferðum: oxygen radical absorbance capacity (ORAC), ferrous ion chelating ability, reducing power and DPPH radical scavenging ability. Breytileg andoxunarvirkni fannst hjá mismunandi kítósanefnum. A1 hafði mesta en í raun lítilsháttar afoxandi og bindandi eiginleika, á meðan B3 og B4 voru með hæstu ORAC gildin. Kítósanefni með 96-100% “deacetylation” voru með mesta <i>in vitro</i> andoxunarvirkni, óháð þeirra mólpunga. Að sama skapi var bakteríudrepani virkni kítósanefnanna breytileg meðal bakteríuteygunda sem voru kannaðar, auk þess sem sýrustigs- og hitastigsáhrifin voru mismunandi. Samt sem áður fundust nokkur kítósanefni sem virkuðu vel á allar bakteríuteygundir, t.d. A3-B2-B3-C1.</p>		
<i>Lykilorð á íslensku:</i>	<i>kítósan – bakteríudrepani – andoxunarvirkni – matvælaöryggi - gæði</i>		
<i>Summary in English:</i>	<p>This report evaluates twelve different types of chitosan products manufactured by Primex ehf and tested for their antibacterial and antioxidative properties in a suitable carrier solution. This study examined the effect of viscosity/molecular weight (150-360 KDa) and degree of deacetylation (A=77-78%; B=83-88%; C=96-100%) on the properties evaluated, as well as the influence of pH (6 and 6.5) and temperature (7 and 17°C) on the antibacterial activity of the chitosan products. The antioxidant activity was evaluated using four assays: oxygen radical absorbance capacity (ORAC), ferrous ion chelating ability, reducing power and DPPH radical scavenging ability. The different chitosan products had different antioxidative properties. A1 had both some reducing and chelating ability, while B3 and B4 had some oxygen radical absorbance capacity. The radical scavenging ability of high DDA (96-100%) chitosan products was emphasised. Similarly, the antibacterial activity of the different chitosan solutions differed among the bacterial species evaluated as well as pH and temperature conditions. Nevertheless, some products demonstrated antibacterial activity towards all strains tested: mainly A3-B2-B3-C1.</p>		
<i>English keywords:</i>	<i>chitosan – antibacterial effect – antioxidant – food safety - quality</i>		