

Novel oral formulation of Insulin (Ramot)

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[Rimona Margalit](#), T.A.U Tel Aviv University, Life Sciences, The Department of Biochemistry and Molecular Biology

Yaron Dekel, T.A.U Tel Aviv University, Life Sciences, The Department of Biochemistry and Molecular Biology

The Technology

Gagomers are novel particles (neither liposomes nor microspheres/ nanospheres) composed of hyaluronan shell which is crossed linked to phospholipids and can be generated either as micro or nano particles. The research team at Tel Aviv University has demonstrated that: (1) Gagomers efficiently encapsulate fibrillar Insulin (2) gagomers are protecting the insulin in the GIT (3) Due to the hyaluronan shell Gagomers are targeting the Insulin to intestinal mucosa and show muco-adhesive properties in the intestine and (4) In vivo studies with diabetic (STZ-induced) mice, under conditions that mimic human eating habits, demonstrated an anti-Glycemic effect reducing blood glucose levels from diabetic to normal.

Potential Application

Oral delivery of mid to long-acting Insulin

Stage of Development

- Extensive in vitro studies on Gagomers production and fibrillar insulin encapsulation
- In vivo proof of concept in STZ mice
- Preliminary Safety data

Patents

PCT patent application (WO 2009/108554 A2)

Supporting Publications

Dekel Y, Glucksam Y and Margalit R, Novel fibrillar insulin formulations for oral administration: Formulation and in vivo studies in diabetic mice. Journal of Controlled Release 2012, 143: 128-135.

Contact for more information:

Ariela Markel  VP Business Development, Healthcare , 02-6586608

Ramot at Tel Aviv University Ltd. P.O. Box 39296, Tel Aviv 61392 ISRAEL

Phone: +972-3-6406608

Fax: +972-3-6406675