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HEALTH PROMOTING POTENTIALS OF ARMENIAN FUNCTIONAL SOUR MILK “NARINE” AND ITS STARTER LACTOBACILLUS HELVETICUS MDC 9602

HOVHANNISYAN H.G.¹, PASHAYAN M.M.^{2*}, BARSEGHYAN A.H.¹, GRIGORYAN G.G.³,
GABOYAN E.H.¹, DANIELYAN L.V.¹

¹Laboratory of Lactic Acid Bacteria, Scientific and Production Center “Armbiotechnology” NAS RA, Yerevan, Armenia

²Department of Drug Technology, Yerevan State Medical University after M. Heratsi, Yerevan, Armenia

³Department of Medical Microbiology, Yerevan State Medical University after M. Heratsi, Yerevan, Armenia

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ABSTRACT

This investigation was undertaken for in vitro evaluation of the adaptive and probiotic properties of Lactobacillus helveticus MDC 9602, the starter of the Armenian functional sour milk “Narine” widely used for curing gastrointestinal disorders and lowering blood pressure. Lactobacillus helveticus species predominantly are used as starters for production of cheeses and fermented sour milk drinks, but a growing body of scientific evidence shows that some strains belonging to this species possesses health benefits. The adaptive properties of MDC 9602, necessary for bacteria viability in the gastrointestinal tract, involve high tolerance to acids, high auto aggregation and hydrophobicity, but low tolerance to bile (0.3%) and NaCl (2%); it does not hydrolyze bile salts, nor utilizes maltose. L. helveticus MDC 9602 produces antimicrobials sensitive to proteinase K and large amounts of lactic acid, exhibits an antagonistic effect on pathogenic and related bacteria. It is susceptible to many routinely prescribed antibiotics and can considered safe.

It is susceptible to many routinely prescribed antibiotics. The beverage “Narine” besides of $>10^{11}$ CFU/g friendly bacteria, contains a high amount of different proteinases and β -galactosidase, which increases nutritional bioavailability of food. Taking “Narine” prevents gastrointestinal infections, modulates the host’s immune response, improves the composition of the gut microbiota and lowering high blood pressure. Most of the listed properties of L. helveticus MDC 9602 do not appear in media other than milk. Thus, it was possible to show that the fermented milk product “Narine”, along with live friendly bacteria, also contains a high amount of various hydrolases, lactic acid and bioactive molecules that improve human health and its starter L. helveticus MDC 9602 can be included among the bacterial species commonly considered as probiotics and starter cultures for the production of high quality nutraceuticals.

KEYWORDS: *Lactobacillus helveticus, dairy starter, sour milk “Narine”, probiotic, health benefits.*

INTRODUCTION

Fermented sour milk beverage “Narine” patented by Professor Levon Yerzinkyan in 1964 as

functional food promoting human health, for more than six decades has been widely used as a natural

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ADDRESS FOR CORRESPONDENCE:

Maria M. Pashayan, PhD
Department of Drug Technology Yerevan State Medical University after M. Heratsi
2 Koryun Street, Yerevan 0025, Armenia
Tel.: (+374 41) 21-43-81
E-mail: mariapashayan@yahoo.com