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Purification and partial characterization of a novel bacteriocin produced by *Lactobacillus casei* TN-2 isolated from fermented camel milk (*Shubat*) of Xinjiang Uygur Autonomous region, China

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Abstract: Identification, characterization and assessment of novel bacteriocins for their potential use as biopreservatives continue to be highlighted in LAB research from past to present. A bacteriocin-producing *Lactobacillus casei* TN-2 strain was isolated from fermented camel milk (*Shubat*) of Xinjiang Uygur Autonomous region, China, after which the bacteriocin (designated as caseicin TN-2) was purified by performing ammonium sulfate precipitation, gel filtration, anion exchange chromatography and reversed-phase HPLC separation. According to MS spectrum, the molecular mass of caseicin TN-2 was 6352 Da, which was significantly different from previous reported bacteriocins produced by *L.casei* strains. Antibacterial activity of caseicin TN-2 was retained over a wide pH range and survived a heat treatment of 121 □ for 20 min. It was sensitive to proteases, such as trypsin and papain. Caseicin TN-2 exhibited a broad antimicrobial spectrum against Gram-positive and Gram-negative food-borne pathogenic strains including some antibiotic-resistant strains. It was found that the minimum inhibitory concentration of caseicin TN-2 to