## **PROBICASEI**

Lactobacillus casei 5 Billion, Lactobacillus acidophilus 5 Billion, and Bifidobacterium longum 5 Billion CFU Capsule



# EFFECT OF LACTOBACILLUS CASEI SHIROTA (LcS) ON BLOOD UREA LEVELS IN PATIENTS WITH CKD

• A simple randomized, controlled clinical trial

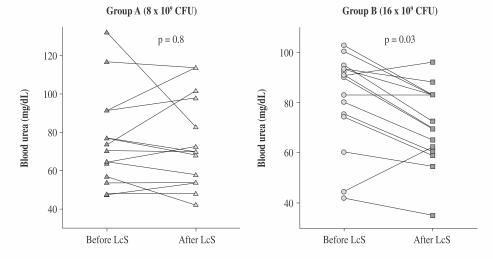
• 30 patients with stage 3 or 4 CKD

• Duration: 8 weeks

• Dosage:

**Group A (n=15):** 8 x 10<sup>9</sup> CFU of LcS **Group B (n=15):** 16 x 10<sup>9</sup> CFU of LcS

• Results: The effect of the LcS treatment on the serum urea concentrations in Both Groups.



Percentage change according to the assigned dose

Parameters	Group A	Group B
Urea (%)	-3.37 ± 22.43	-10.98 ± 16.45
Creatinine (%)	0.51 ± 12.62	-2.05 ± 10.76
GFR (%)	3.28 ± 15.90	4.34 ± 13.01

When analyzing the percentage change between the different doses, a decrease > 10% was found in the blood urea concentrations for patients treated with the 16 x  $10^9$  CFU dose, which was significant with respect to the baseline measurement.

"There was a > 10% decrease in the serum urea concentrations with LcS in patients treated with 16 x 10° CFU dose."



### **EFFECT OF** SYNBIOTIC SUPPLEMENTATIONS ON AZOTEMIA IN PATIENTS WITH CKD

- A randomized controlled trial
- 66 patients with CKD (stages 3 and 4)
- Duration: 6 weeks
- Dosage: 500 mg Capsule (Containing 7 Strains of Probiotics; Lactobacillus casei, Lactobacillus acidophilus, Bifidobacterium longum, Lactobacillus bulgaricus, Lactobacillus rhamnosus, Bifidobacterium breve, Streptococcus thermophilus, and prebiotic Fructooligosaccharides) twice a day after meal.
- Results:

Parameters	Intervention Group (n=31)		Control Group (n=35)	
raiameters	Before	After	Before	After
BUN (mg/dL)	40.80 ± 22.11	36.14 ± 20.52	37.22 ± 21.95	39.62 ± 27.56
SCr (mg/dL)	2.00 ± 0.70	1.90 ± 0.70	2.15 ± 1.02	2.18 ± 1.14
SUA (mg/dL)	5.89 ± 1.70	5.72 ± 1.49	5.30 ± 1.00	5.51 ± 1.15
CrCl (ml/min)	28.24 ± 13.32	32.96 ± 19.87	33.46 ± 19.33	36.63 ± 20.52
GFR (ml/min)	41.35 ± 15.74	43.25 ± 17.49	41.40 ± 16.91	39.51 ± 17.64

BUN: Blood Urea Nitrogen, SCr: Serum Creatinine, SUA: Serum Uric Acid, CrCl: Creatinine Clearance, GFR: Glomerular Filtration Rate

The level of blood urea nitrogen showed a significant reduction following the intake of synbiotic supplement (from  $40.80 \pm 22.11 \text{ mg/dL}$  to  $36.14 \pm 20.52 \text{ mg/dL}$ ).

"The intake of synbiotic supplement could reduce blood urea nitrogen in patients with CKD in stages 3 and 4."

## **PROBICASEI**

Lactobacillus casei 5 Billion, Lactobacillus acidophilus 5 Billion, and Bifidobacterium longum 5 Billion CFU Capsule

#### **DESCRIPTION:**

- PROBICASEI contains three natural occurring probiotic bacterial strains of good bacteria Lactobacillus casei strain Shirota, Lactobacillus acidophilus and Bifidobacterium longum.
- These Probiotics are specifically from classes already approved for human consumption and are Generally Recognized as Safe (GRAS) under USFDA guidelines.

#### INDICATION:

PROBICASEI is indicated to manage blood urea nitrogen level in chronic kidney disease patients. It is also used for delaying the progression of CKD and the need for dialysis by managing the nitrogenous wastes.

#### **MECHANISM OF ACTION:**

As the kidney function declines, nitrogenous wastes build up in the blood and diffuse into the intestinal fluid by natural physiological process.

- 1. The nitrogenous wastes diffuse into the Large Intestine via an extensive network of blood vessels.
- 2. Probiotic microbes enter the large intestine into the ileo-caecal region.
- 3. Once in the colon, the microbes target and metabolize the uremic nitrogenous wastes as nutrients for its growth.
- 4. The microbes begin to multiply, and this in turn allows for even greater diffusion of nitrogenous wastes from the circulating blood stream into the bowel.
- 5. The "nitrogenous waste/microbe" metabolites are eventually eliminated from the body as solid waste fecal matter.

#### DOSE:

1 Capsule a day with meal or as suggested by medical practitioner.

#### L. casei in PROBICASEI offers:

- Reduction in Blood Urea Nitrogen
- Reduction in serum p-Cresol, plasma Glucose levels, Insulin Resistance and HbA1C Levels
- Beneficial effects on glucose homeostasis, and some biomarkers of inflammation and oxidative stress
- Beneficial modulation of intestinal flora

#### **USPs**:

- First of its kind formulation to reduce Nitrogenous waste
- Proven Probiotic Formulation to maintain Healthy Kidney Function
- Reduces CKD Progression & Improves Quality of Life
- Cost effective & High Quality Product

#### References:

- 1. Nutr Hosp. 2014;29(3):582-590
- 2. Iran J Kidney Dis. 2016 Nov;10(6):351-357
- 3. Nephrol Dial Transplant (2011) 26: 1094-1098
- 4. Kidney International (2017) 91, 435-442

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