

## PreCardix® Overview

- PreCardix® is a safe and effective natural product for healthy blood pressure and cardiovascular health (significant BP-lowering effect in 2-8 weeks)
- Contains unique clinically proven bioactive marine peptides from shrimp shells that have an ACE-inhibiting action
- Supported by a peer-reviewed, double blind, placebo-controlled clinical trial published in the *International Journal of Hypertension*

## PreCardix® Overview

- No serious side effects
- Developed in Norway, Made in Canada, sustainably sourced from the Arctic Sea
- Approved by Health Canada, FDA, EFSA

## PreCardix® Overview

**Daily Dosage: 1200mg (2 tablets)**

this is consistent with the clinically tested therapeutic dosage

**Ingredients Per tablet:**

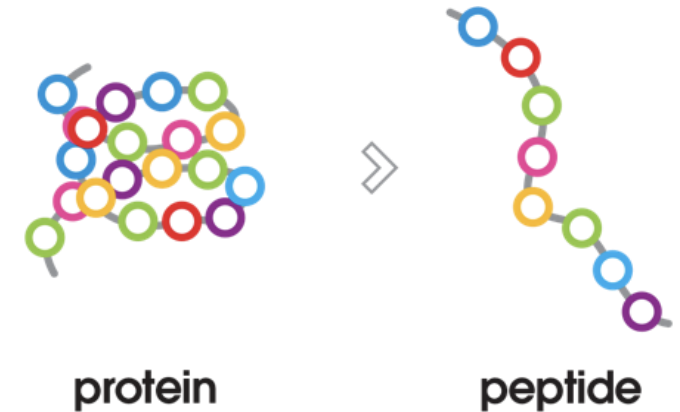
- **Medical ingredients**

Shrimp protein hydrolysate (*Pandalus borealis* – shell): 600 mg

- **Non-Medical Ingredients**

microcrystalline cellulose, croscarmellose sodium, magnesium stearate, silicon dioxide, polyethylene glycol, USP-NF talc, polyvinyl alcohol, titanium dioxide.

*\*New non-medicinal ingredient list to be rolled out in 2023*



# Clinical Trial - Introduction

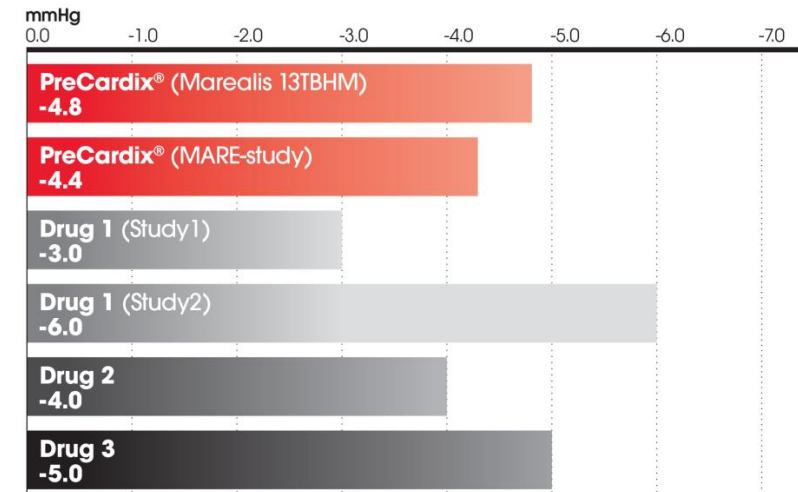
- Past studies: Marine-derived protein hydrolysates (bioactive marine peptides) may have a positive effect on blood pressure health
- **Greater ACE inhibiting effects have been found with hydrolysates derived from shrimp**
- An earlier clinical trial in Finland indicated product safety, efficacy and therapeutic dosage
- This was a randomized, double blind, placebo-controlled, three armed parallel group, pilot trial with an 8-week intervention period, and 74 subjects with mild- moderate hypertension.
- A second clinical trial was conducted:
- A Randomized, double-blind, placebo-controlled; multicentre, parallel study of the Effects of a Shrimp Protein Hydrolysate on Blood Pressure

# Clinical Trial - Result Highlights

- Bioactive marine peptides have a statistically significant effect on blood pressure
- No serious side effect
- Working mechanism of action as a natural ACE inhibitor documented
- Results published in the International Journal of Hypertension’s special publication: “Nonpharmacological Approaches to Blood Pressure Regulation”

<https://www.hindawi.com/journals/ijhy/2019/2345042/>

**Blood pressure change compared to common ACE inhibiting drugs**



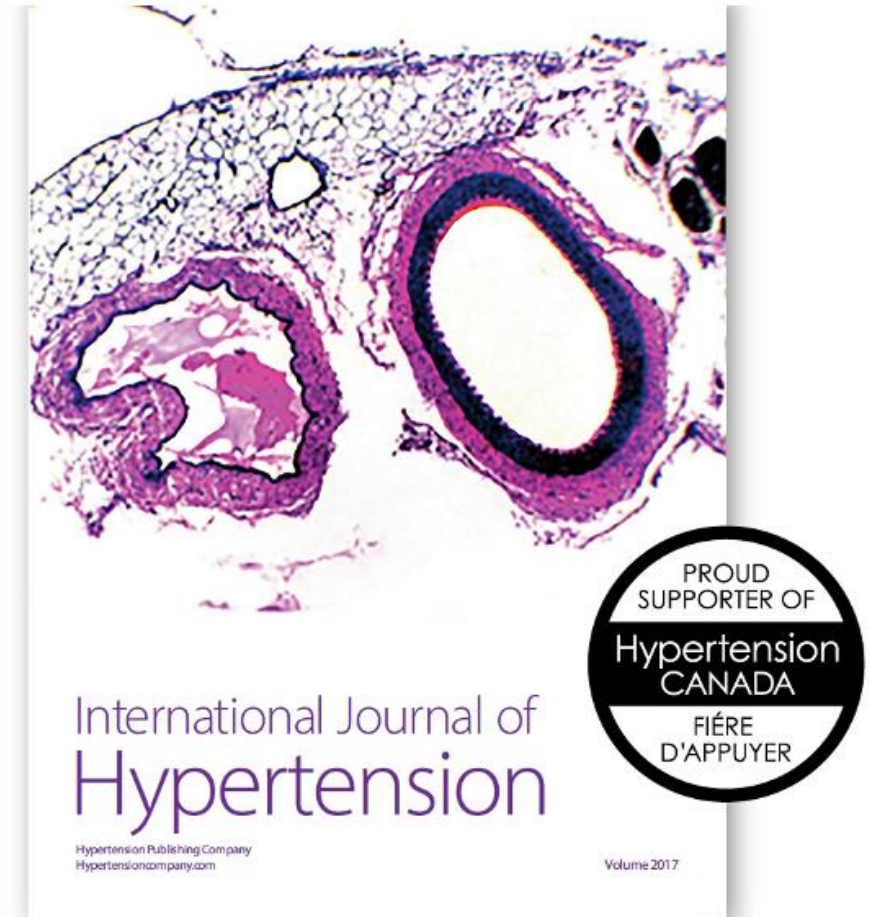
Bioactive marine peptides clinical trial results (in red) compared to the results of four common ACE inhibitor medications (in grey). Studies were conducted independently.

## Clinical Trial - Objectives

- 1) Efficacy on changes in daytime ambulatory SBP and office SBP
- 2) Effects on 24 hour and night-time ambulatory SBP
- 3) 24 hour daytime, night time ambulatory and office DBP
- 4) Effects on blood levels of angiotensin I and II & ACE-inhibiting activity.

## Clinical Trial – Methods

- Multicentre (21 centres), randomized, double-blind, placebo-controlled, parallel, 8 week study
- **Gold-standard clinical study**
- In accordance with applicable regulatory requirements
- Third party validated and peer reviewed
- Investigational Products: Shrimp-derived RPC containing 1,200mg/day protein hydrolysate OR placebo tablets



# Clinical Trial - Study Population

Inclusion Criteria:

- **Male or Female aged 30-75**
- **Mild or moderate hypertension**
- Otherwise healthy & non-medicated
- Body weight  $\geq$  60kg and stable



# Clinical Trial - Results

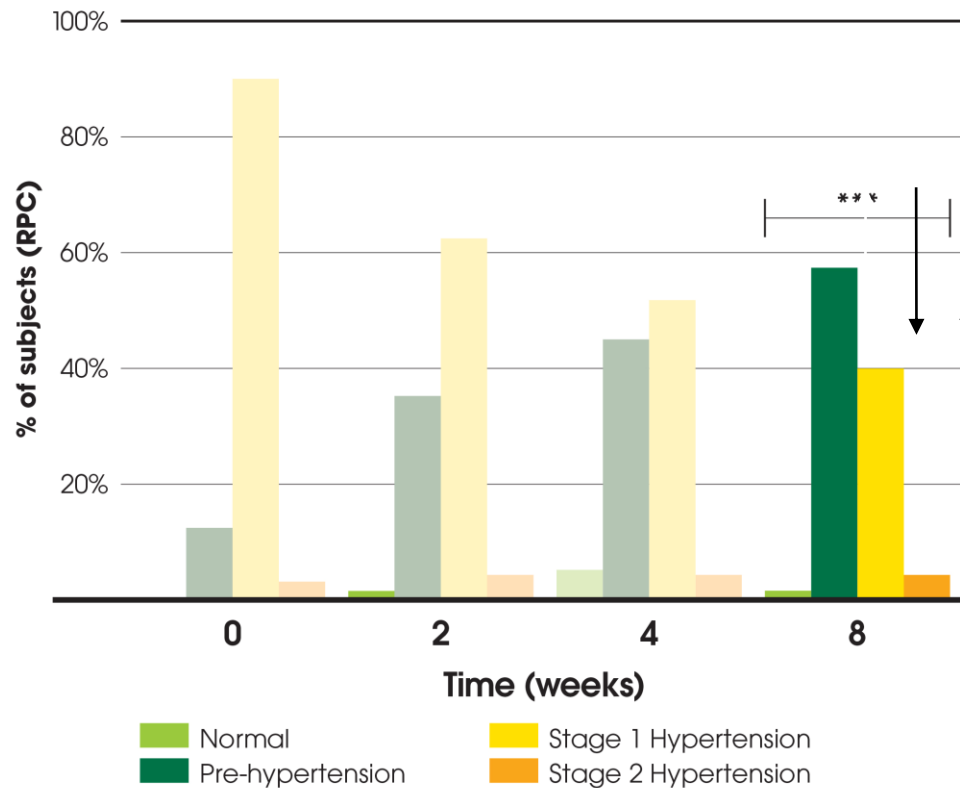
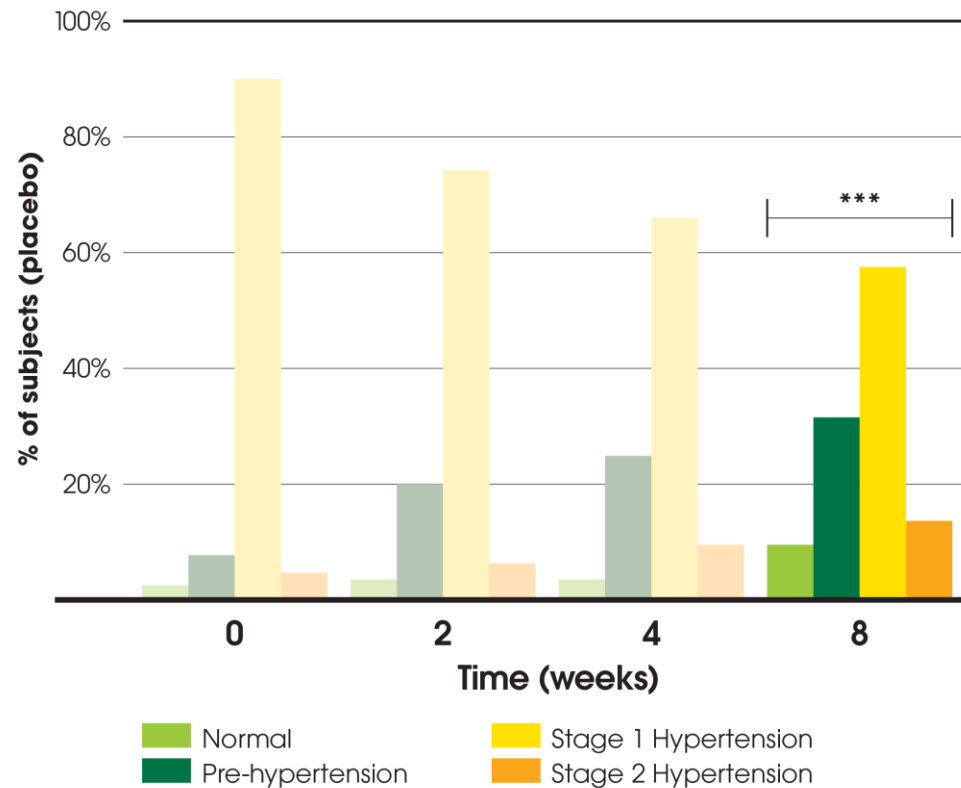
- **n=144**
- Per-protocol population: 125 subjects  
(63 in RSPC group; 62 in placebo group)
- **P-value >0.03**
- **Compliance ≥ 97.5%**
- No significant differences in demographic and baseline variables between RSPC group and Placebo

# Clinical Trial - Results

- Daytime ambulatory and 24-hour ambulatory SBP was significantly reduced at both weeks 4 and 8
- Night-time ambulatory SBP was significantly reduced at week 4
- Office SBP was significantly reduced at weeks 2, 4 and with a trend toward significance at week 8
- For DBP, daytime ambulatory DBP was significantly reduced, both at weeks 4 and 8
- 24 hour ambulatory DBP was significantly reduced in the RSPC group vs Placebo group at week 8

# Clinical Trial - Results

At baseline, 10% of subjects in the Refined Shrimp Peptide Concentrate group were classified as “Normal” or “Prehypertensive”, by week 8, 57% were classified as “Normal” or “Prehypertensive” VS. At baseline, 7% of Placebo group subjects were classified as “Normal” or “Prehypertensive”, by week 8, 35% were classified as “Normal” or “Prehypertensive”.



**Figure 2:** Proportion of ITT subjects in NIH-defined blood pressure categories at weeks 0, 2, 4, and 8 of the study based on office blood pressure. ITT: intention-to-treat; NIH: National Institutes of Health; RPC: Refined Peptide Concentrate; \*\*\*, p=0.006, for the difference between groups in the distribution of subjects across NIH-defined blood pressure categories, favouring RPC over placebo.

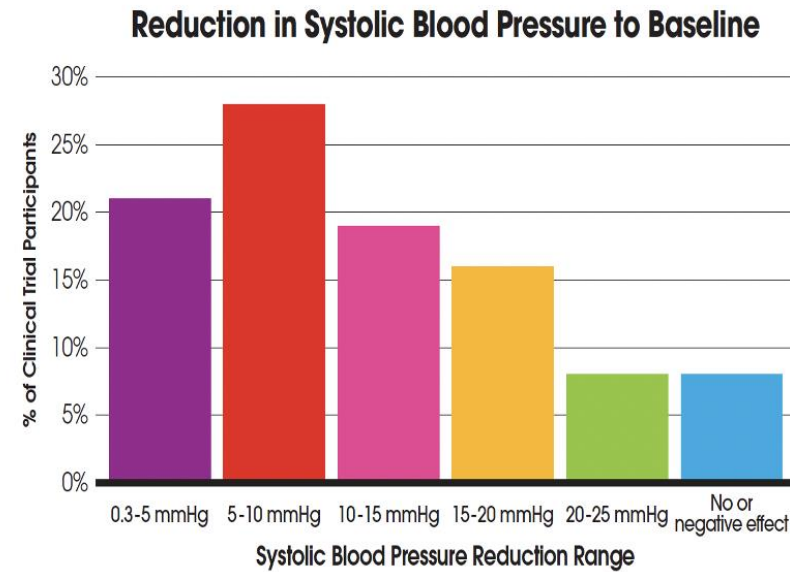
## Clinical Trial - Results

- All laboratory analysis done throughout the study remained similar and resulted in no statistically significant differences between RSPC and Placebo groups (safety parameters measured- unchanged)
- Food records showed no statistically significant differences
- Angiotensin II levels significantly reduced from baseline to week 8
- No serious AE's reported; NO cough reported
- NO difference in safety parameters between baseline and week 8

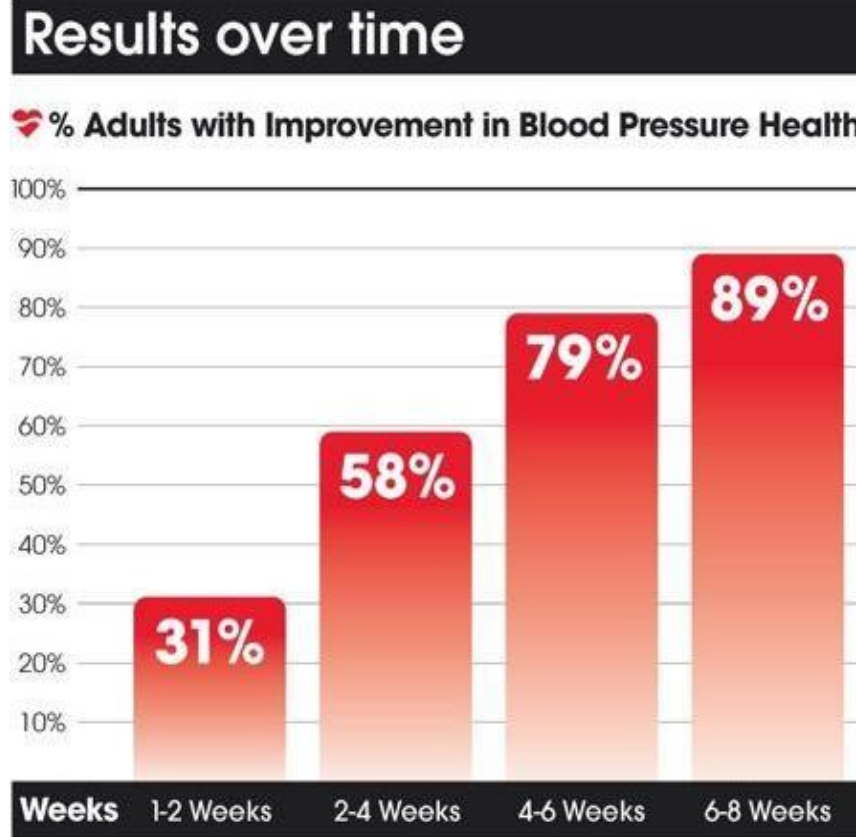
# Clinical Trial - Discussion & Conclusions

- Reductions in office SBP statistically significant compared to placebo
- Reductions in daytime ambulatory SBP were statistically significant compared to placebo
- Statistically significant improvements for 24 hour SBP and for night-time ambulatory SBP.
- RSPC outperformed Placebo on all DBP assessments
- No difference in safety parameters

## Expected Effect in Eight Weeks



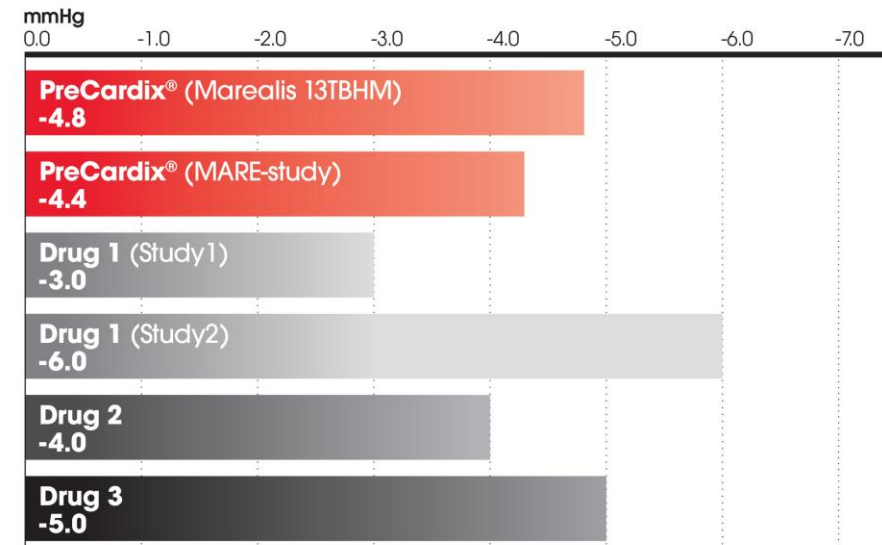
4.8 mmHg average reduction in systolic blood pressure compared to placebo  
6.7 mmHg average reduction in systolic blood pressure compared to baseline



\*% participants who saw a decrease in blood pressure levels of medical significance, as compared to baseline.

- Clinical trials performed on RSPC have shown comparable result in systolic blood pressure reduction as common blood pressure lowering medication, when compared to placebo.
- RSPC has not been studied in a head to head clinical trial, with medication. This comparison is made looking at clinical evidence on medication, with similar baseline population as the clinical trial done on RSPC.

## Blood pressure change compared to common ACE inhibiting drugs



Bioactive marine peptides clinical trial results (in red) compared to the results of four common ACE inhibitor medications (in grey). Studies were conducted independently.



# Expected Effect- Impact

To put these values in perspective a 5 mmHg reduction in blood pressure leads to a:

- 13% reduction in stroke
- 7% reduction in ischemic heart disease
- 5% reduction in mortality due to cardiovascular disease

# Target Patient: Who is PreCardix® for?

**PreCardix® has been studied in a non-medicated, healthy adult population who have mild to moderate hypertension**

- PreCardix® may be considered in the following patients:
  - Those seeking to support healthy blood pressure and cardiovascular health where blood pressure medication is not yet indicated
  - Adults looking to complement recommended lifestyle interventions (diet, exercise and stress management) to support blood pressure health

# Target Patient: Who is PreCardix® for?

**- PreCardix® may be appropriate for the following patients only under the supervision and direction of a health care provider:**

- Patients currently taking blood pressure-lowering medications
- Patients taking medications for other health conditions
- Those with pre-existing medical conditions

*Patients should talk to their health care providers before making any changes to their blood pressure management plan.*

*PreCardix® is not a substitute for medication and has not been studied in conjunction with other medications.*