



# PEPTACE® FISH PEPTIDES

Natural alternatives to ACE inhibitors

High blood pressure directly kills over 50,000 people in the United States each year and contributes to another 200,000+ deaths. Obviously it is a huge problem. Compounding the matter is that the various drugs used to treat high blood pressure often make patients feel worse because of side effects. Fortunately, there is an amazing new natural approach that is both safe and effective in helping to lower blood pressure – PeptACE Fish Peptides.

## WHAT ARE PEPTACE FISH PEPTIDES

This natural supplement is composed of a mixture of 9 small peptides (proteins) derived from bonito (a member of the tuna family).

## HOW DOES IT WORK TO LOWER BLOOD PRESSURE

PeptACE Fish Peptides work to lower blood pressure by inhibiting ACE (angiotensin converting enzyme). This enzyme converts angiotensin I to angiotensin II – a compound that increases both the fluid volume and the degree of constriction of the blood vessels. If we use a garden hose model to illustrate the pressure in your arteries, the formation of angiotensin II would be similar to pinching off the hose while turning up the faucet full blast. By inhibiting the formation of this compound, PeptACE Fish Peptides relax the arterial walls and reduce fluid volume. PeptACE Fish Peptides exert the strongest inhibition of ACE reported for any naturally-occurring substance available. (Fujita, *et al*).

## HOW DO PEPTACE FISH PEPTIDES COMPARE WITH ACE INHIBITING DRUGS

The ACE inhibiting drugs have emerged as the preferred drug for the treatment of high blood pressure. The reason is that unlike other drug treatments (e.g. diuretics and beta-blockers), ACE inhibitors actually improve heart function and increase blood and oxygen flow to the heart, liver and kidneys. This effect may explain why ACE inhibitors are the only antihypertensive drugs that appear to reduce the risk of having a heart attack. Unfortunately, one downside: they do not reduce the risk for strokes.

Another downside to the ACE inhibitors is their side effects. These include the development of a dry nighttime cough, dizziness, light-headedness and headache. ACE inhibitors can also cause potassium buildup and kidney problems, so potassium levels and kidney function should be monitored. And, all of the ACE inhibitors appear to be capable of producing a severe allergic reaction that can be life threatening. In contrast, PeptACE Fish Peptides are free from these risks and side effects.

## DO PEPTACE FISH PEPTIDES PRODUCE SIDE EFFECTS

PeptACE Fish Peptides do not appear to produce any side effects according to human safety studies. The typical daily dosage is 1.5 grams, but even at a daily dosage of 30 grams per day not a single subject experienced any side effect including the dry nighttime cough so typical with the ACE inhibitor drugs.

The probable reason is that its mechanism of action in inhibiting ACE is different than that of the drugs. Research bears this theory out. The drugs basically indiscriminately block ACE by interfering with its action while the PeptACE Fish Peptides interact much differently. ACE converts angiotensin I to angiotensin II by cleaving off a small peptide. Drugs work by directly blocking this action. PeptACE Fish Peptides work differently. ACE actually reacts with the PeptACE Fish Peptides instead of angiotensin. In addition to competing with angiotensin via this effect, PeptACE Fish Peptides are transformed into even more potent inhibitors of ACE. Technically speaking, PeptACE Fish Peptides are considered a “pro-drug.” This term is used to describe substances that are converted in the body to more active compounds. While the PeptACE Fish Peptides have shown good ACE inhibition, the transformed peptides exert an 800% greater activity.

## COMMON NAMES OF ACE INHIBITING DRUGS

Benazepril (Lotensin); captopril (Capoten); captopril /hydrochlorothiazide (Capozide); enalapril maleate (Vasotec); fosinopril sodium (Monopril); lisinopril (Prinivil, Zestril); quinapril/magnesium carbonate (Accupril); ramipril (Altace); trandolapril (Mavik).

## DO PEPTACE FISH PEPTIDES LOWER BLOOD PRESSURE IN PEOPLE WITH NORMAL BLOOD PRESSURE

No, because of the unique and amazing mechanism of action of PeptACE Fish Peptides, blood pressure is not lowered in people with normal blood pressure – even when administered at levels 20 times greater than the dosage level that lowers blood pressure in people with high blood pressure. Drugs just do not work in this manner and as a result often cause side effects when taken at higher dosages.

## ARE THERE OTHER NATURALLY-OCCURRING PEPTIDES THAT INHIBIT ACE

Yes, there are other peptides that have been shown to inhibit ACE including peptides from milk, chicken and other fish. What makes PeptACE Fish Peptides unique and superior to these other peptides is that while other peptides show activity in test tube studies when they are administered to animals (or humans) they are not active. The difference appears to be the fact that the PeptACE Fish Peptides are absorbed intact when taken orally while digestive enzymes break down the other peptides.

## WHAT KIND OF CLINICAL EFFECT HAS BEEN SEEN WITH PEPTACE FISH PEPTIDES

Three clinical studies have shown PeptACE Fish Peptides exert significant blood pressure lowering effects in people with high blood pressure (hypertension) (Fujita, *et al*). The material appears to be effective in about two-thirds of people with high blood pressure – about the same percentage as many prescription drugs.

*Note:* People who do not respond to PeptACE Fish Peptides after a two-month trial should try Celery Seed Extract.

The degree of blood pressure reduction in these studies was quite significant, typically reducing the systolic by at least 10 mm Hg and the diastolic by 7 mm Hg in people with borderline and mild hypertension. Greater reductions will be seen in people with higher initial blood pressure readings.

## DOSAGE

The typical dosage is 3 capsules daily or as directed by a health care practitioner.

## SAFETY

No side effects were reported in the clinical studies and a safety study showed no side effects with dosages as high as 30 g daily. PeptACE Fish Peptides do not affect blood pressure in people without hypertension.

## WHAT ELSE SHOULD A PERSON DO TO HELP LOWER BLOOD PRESSURE

Ultimately, the health of the artery is critical to maintaining normal blood pressure. When the arteries become hard due to the buildup of plaque containing cholesterol, blood pressure rises. Therefore, it is very important to prevent atherosclerosis (hardening of the arteries). Just like other degenerative diseases including atherosclerosis, the development of high blood pressure is closely related to lifestyle and dietary factors. Some of the important lifestyle factors that may cause high blood pressure include stress, lack of exercise and smoking. Some of the dietary factors include: obesity; high sodium to potassium ratio; low fibre high sugar diet; high saturated fat and low omega-3 fatty acid intake; and a diet low in calcium, magnesium and vitamin C.

Special foods for people with high blood pressure include celery, garlic and onions, nuts and seeds or their oils for their essential fatty acid content, cold-water fish (salmon, mackerel, etc.) or fish oil products concentrated for EPA and DHA, green leafy vegetables for their rich source of calcium and magnesium, whole grains and legumes for their fibre, and foods rich in vitamin C like broccoli and citrus fruits.

Celery Seed Extract (available at your health food store) is often an important companion to PeptACE Fish Peptides. It contains a substance called 3-n-butylphthalide (3nB) – that can also lower blood pressure. In animals, a very small amount of 3nB lowered blood pressure by 12 to 14%. 3nB appears to help lower blood pressure by both acting as a diuretic and vasodilator in a similar manner to drugs known as calcium-channel blockers. The dosage for Celery Seed Extract is based upon the level of 3nB. For the extract standardized to contain 85% 3nB, the dosage is 150 mg daily.

Garlic and onions are also important foods for lowering blood pressure. In addition, taking a garlic supplement that delivers at least 4,000 mcg of allicin daily may also be of benefit

(also available at your health food store) (Silagy).

Anyone with high blood pressure should also be on a high potency multiple vitamin and mineral formula to insure optimal levels of key nutrients especially magnesium.

## FINAL COMMENTS

High blood pressure should not be taken lightly. By keeping your blood pressure in the normal range, you cannot only improve the length of your life, but also the quality of your life. This statement is especially true if natural measures rather than drugs are used to attain proper blood pressure.

## KEY REFERENCES

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