

PALMITOLETHANOLAMIDE PEA

Palmitoylethanolamide (N-(2-hydroxyethyl)hexadecanamide of palmidrol, afgekort PEA) is een vetzuuramide dat van nature voorkomt in het menselijk lichaam.

Deze lichaamseigen stof wordt in de cel aangemaakt als reactie op bepaalde prikkels, zoals de aanwezigheid van vrije radicalen. Ook bevat voedsel kleine hoeveelheden van deze stof, met name eieren, pinda's, soja, (orgaan)vlees en vis.

Het is essentieel voor de bescherming van cellen en weefsels tegen schadelijke prikkels die kunnen ontstaan door zuurstoftekort, mechanische schade of schade door ontstekingen (inclusief chronische laaggradige ontstekingen). Daarnaast is PEA een ontstekingsremmende stof en een bijzonder goede pijnstillert, met name bij chronische pijnklachten. Het is een belangrijke bijwerkingsvrije behandelingsmogelijkheid voor pijn en een grote doorbraak op het gebied van chronische pijnbestrijding.

KENMERKEN

Palmitoylethanolamide normaliseert uit balans gebrachte biologische processen zoals chronische ontstekingen of beschadigingen door trauma of zuurstofgebrek. Dit gebeurt onder andere via de invloed op een bepaalde kernreceptor [1], die de PPAR [2] receptor genoemd wordt. Deze kernreceptor herstelt het evenwicht in cellen die uit balans gebracht zijn waardoor deze cellen niet langer te veel ontstekingsfactoren en pijn bevorderende stoffen aanmaken.

Het activeren van deze kernreceptor speelt dan ook een belangrijke rol bij pijnstilling.

Palmitoylethanolamide kan in veel cellen gevormd worden en kan op deze manier werkzaam zijn bij chronische pijnklachten. Het maakt namelijk deel uit van een natuurlijk anti-pijn systeem in ons lichaam. Bij elk chronisch pijnsyndroom vindt er overmatige activatie plaats van bepaalde cellen die bij ontsteking een rol spelen, zoals de mastcellen [3] en de gliacellen [4]. Sinds een aantal jaren is bekend dat deze niet-neuronale cellen chronische pijn in stand houden. Daarom is het van groot belang deze geactiveerde ontstekingsachtige cellen in hun overmatige activiteit te remmen. Dat is precies wat palmitoylethanolamide doet. Het brengt deze cellen weer tot rust, waardoor chronische pijnsystemen in het lichaam aanmerkelijk zullen verminderen.

De werking van palmitoylethanolamide (PEA) is in de jaren 90 ontdekt door Nobelprijswinnares Rita Levi-Montalcini. Sinds die tijd zijn er vele (o.a. klinische) onderzoeken gedaan met PEA en is er gaandeweg meer bekend geworden over de werkingsmechanismen. Er zijn inmiddels meer dan 300 wetenschappelijke publicaties over deze stof.

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Verklarende woordenlijst

1. **Kernreceptor:** Een receptor die zich bevindt in de celkern en die kan binden met bepaalde stoffen zoals hormonen. Door de binding van deze stoffen aan de kernreceptor oefent deze vervolgens invloed uit op het DNA waardoor bepaalde genen vervolgens meer of minder tot expressie komen (een voorbeeld hiervan is dat palmitoylethanolamide bindt aan de kernreceptor en deze het DNA zodanig beïnvloedt dat de aanmaak van ontstekingsfactoren verminderd wordt).
2. **PPAR receptor:** Peroxisome proliferatoractivated receptor; een specifieke kernreceptor die voorkomt in verschillende soorten weefsels. Oorspronkelijk werd gedacht dat deze receptoren het aantal peroxisomen (een celorganel dat onder andere voor de detoxificatie van bepaalde schadelijke stoffen kan zorgen) in de cel konden laten toenemen. Later bleek dat PPAR receptoren veel meer functies hebben en dat ze een essentiële rol spelen bij de celdifferentiatie, ontwikkeling en het metabolisme van hogere organismen.
3. **Mestcellen:** Cellen die onder andere in het slijmvlies van de luchtwegen, neus en darm voorkomen, maar ook in de huid en andere weefsels. Deze cellen produceren onder andere histamine dat wordt opgeslagen in korrels. Mestcellen kunnen geactiveerd raken door bijvoorbeeld beschadiging of contact met een allergeen. De inhoud van de korrels wordt dan vrijgegeven en veroorzaakt een ontstekingsreactie.
4. **Gliacellen** (Grieks: glia = lijm): niet-neuronale cellen die in het zenuwstelsel voorkomen en de neuronen beschermen en verzorgen. De verhouding gliacellen/ zenuwcellen is ongeveer 10:1. In tegenstelling tot de neuronen zijn gliacellen wel in staat zich te delen.

EIGENSCHAPPEN

- Celbescherming
- Ontstekingsremmende werking, bij acute en chronische ontstekingen
- Pijnstillende werking, met name bij chronische pijnklachten (zoals bij artrose, artritis, spierkrampen, prostaataandoeningen), tevens bij neuropathische pijnklachten (hernia, CES).

KWALITEIT

Voor een optimale opname en benutting van palmitoylethanolamide is het van groot belang om te kiezen voor een voedingssupplement dat zo zuiver mogelijk is, een hoge dosering palmitoylethanolamide heeft en geen onnodige additieven bevat. PEA-supplementen met het PEA opt® keurmerk bevatten palmitoylethanolamide met de hoogste zuiverheid en kwaliteit, en een optimale opneembaarheid. Een gepatenteerd productieproces zorgt voor PEA-deeltjes met verschillende grootte (verkleinde, verfijnde en ultra-verfijnde deeltjes) in een specifieke verhouding. Palmitoylethanolamide dat niet op deze speciale manier behandeld is, kan moeilijker opneembaar zijn voor het lichaam en daardoor minder werkzaam zijn.

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INTERACTIE

- Er zijn geen negatieve interacties waargenomen van PEA met reguliere medicatie. PEA kan dus zonder bezwaar naast medicatie gebruikt worden.
- PEA kan de werking van reguliere pijnstillers versterken (positieve interactie). PEA kan desgewenst ingezet worden om de dosering van reguliere pijnstillers te verminderen, of deze zelfs na enige tijd te vervangen.
- Palmitoylethanolamide beschermt tegen toxische effecten van cytostatica. Voorts heeft palmitoylethanolamide een intrinsieke anti-tumor werking, waardoor het toedienen van een chemokuur samen met palmitoylethanolamide een dubbel therapeutisch effect kan hebben: een betere werking van de chemokuur en een betere bescherming van de lichaamscellen tegen de bijwerkingen van de chemokuur.
- B-vitamines (waaronder vitamine B1, B6 en B12) hebben een synergetische werking in combinatie met PEA. Zorg daarom dat de dagelijkse inname van B-vitamines voldoende is, bijvoorbeeld door aanvulling van de voeding met een multi of vitamine B-complex.
- De combinatie met vitamine D3 suppletie kan eveneens zeer zinvol zijn bij chronische pijnklachten.

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ENGLISH

PALMITOLETHANOLAMIDE PEA

Palmitoylethanolamide (N-(2-hydroxyethyl) hexadecanamide or palmidrol, abbreviated PEA) is a fatty acid amide that occurs naturally in the human body.

This body's own substance is produced in the cell in response to certain stimuli, such as the presence of free radicals. Food also contains small amounts of this substance, especially eggs, peanuts, soy, (organ) meat and fish.

It is essential for protecting cells and tissues from harmful stimuli that can arise from oxygen deprivation, mechanical damage, or damage from inflammation (including chronic low-grade inflammation). In addition, PEA is an anti-inflammatory substance and a particularly good pain reliever, especially for chronic pain complaints. It is an important side-effect-free treatment option for pain and a major breakthrough in the field of chronic pain management.

CHARACTERISTICS

Palmitoylethanolamide normalizes unbalanced biological processes such as chronic inflammation or damage due to trauma or oxygen deprivation. This happens, among other things, through the influence on a certain nuclear receptor [1], which is called the PPAR [2] receptor. This nuclear receptor restores the balance in cells that have been thrown out of balance, so that these cells no longer produce too many inflammatory factors and pain-promoting substances.

Activating this nuclear receptor therefore plays an important role in pain relief. Palmitoylethanolamide can be formed in many cells and can be effective in this way for chronic pain complaints. It is part of a natural anti-pain system in our body. In any chronic pain syndrome, there is excessive activation of certain cells that play a role in inflammation, such as mast cells [3] and glial cells [4]. For a number of years, it has been known that these non-neuronal cells maintain chronic pain. Therefore, it is very important to inhibit these activated inflammation-like cells in their excessive activity. That's exactly what palmitoylethanolamide does. It calms these cells back, which will significantly reduce chronic pain systems in the body.

The effect of palmitoylethanolamide (PEA) was discovered in the 1990s by Nobel Prize winner Rita Levi-Montalcini. Since that time, many (including clinical) studies have been done with PEA and gradually more has become known about its mechanisms of action. There are now more than 300 scientific publications on this substance.

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Glossary

5. **Nuclear receptor:** A receptor located in the cell nucleus that can bind with certain substances such as hormones. By binding these substances to the nuclear receptor, it then exerts an influence on the DNA, causing certain genes to be expressed more or less (an example of this is that palmitoylethanolamide binds to the nuclear receptor and this affects the DNA in such a way that the production of inflammatory factors is reduced).
6. **PPAR receptor:** Peroxisome proliferator-activated receptor; a specific nuclear receptor found in different types of tissues. Originally, it was thought that these receptors could increase the number of peroxisomes (a cell organelle that can cause the detoxification of certain harmful substances, among other things) in the cell. It was later found that PPAR receptors have many more functions and that they play an essential role in the cell differentiation, development and metabolism of higher organisms.
7. **Mast cells:** Cells that are found in the mucous membrane of the respiratory tract, nose and intestine, but also in the skin and other tissues. These cells produce, among other things, histamine, which is stored in granules. Mast cells can become activated by, for example, damage or contact with an allergen. The contents of the grains are then released and cause an inflammatory reaction.
8. **Glial cells** (Greek: glia = glue): non-neuronal cells found in the nervous system that protect and care for neurons. The ratio of glial cells to nerve cells is approximately 10:1. Unlike neurons, glial cells are able to divide.

PROPERTIES

- Cell protection
- Anti-inflammatory effect, in acute and chronic inflammation
- Analgesic effect, especially in chronic pain complaints (such as osteoarthritis, arthritis, muscle cramps, prostate disorders), also in neuropathic pain complaints (herniated disc, CES).

QUALITY

For optimal absorption and utilization of palmitoylethanolamide, it is very important to choose a dietary supplement that is as pure as possible, has a high dose of palmitoylethanolamide and does not contain unnecessary additives. PEA supplements with the PEA opt® label contain palmitoylethanolamide with the highest purity and quality, and optimal absorption. A patented manufacturing process produces PEA particles of different sizes (reduced, refined, and ultra-refined particles) in a specific ratio. Palmitoylethanolamide that has not been treated in this special way may be more difficult for the body to absorb and therefore less effective.

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INTERACTION

- No negative interactions of PEA with regular medication have been observed. PEA can therefore be used in addition to medication without any problems.
- PEA can enhance the effect of regular painkillers (positive interaction). If desired, PEA can be used to reduce the dosage of regular painkillers, or even to replace them after some time.
- Palmitoylethanolamide protects against toxic effects of cytostatics. Furthermore, palmitoylethanolamide has an intrinsic anti-tumor effect, which means that administering chemotherapy together with palmitoylethanolamide can have a double therapeutic effect: a better effect of the chemotherapy and a better protection of the body's cells against the side effects of the chemotherapy.
- B vitamins (including vitamins B1, B6 and B12) have a synergistic effect in combination with PEA. Therefore, make sure that the daily intake of B vitamins is sufficient, for example by supplementing the diet with a multi or vitamin B complex.
- The combination with vitamin D3 supplementation can also be very useful for chronic pain complaints.

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