



## PEG - MGF

**PEG-MGF** is Pegylated Mechano Growth Factor. It is a long-acting variant of MGF which is a split variant of IGF-1 (but its sequence differs from the systemic IGF-1 produced by the liver). IGF-I is spliced towards MGF which initiates hypertrophy and repair of local muscle damage.

MGF is expressed by mechanically overloaded muscles and is involved in tissue repair and adaptation. It is expressed as a “pulse” following muscle damage and is involved in the activation of muscle satellite (stem) cells. These donate nuclei to the muscle fibers that are required for repair and for the hypertrophy process, which may have similar regulatory mechanisms.

MGF is essential for the repair and therefore growth of new cells, similar to IGF-1.

Lastly, if MGF is not PEGylated, the half-life lasts only minutes therefore PEGylated MGF must be considered during the compounding process to ensure an appropriate half-life, thereby increasing the duration of action.

Benefits of PEG-MGF include:

- Strong anabolic effect and ability to repair and rebuild muscles
- Ability to induce muscle hyperplasia (growth of new muscle cells)
- Neuroprotective effect (protects the nervous system and brain functions)
- Mediates myocardial cell survival and myocardium repairs
- Important roles in tissue growth and wound healing
- Positive role on bone injury healing

