**Supplement 3. Induction of Heat shock proteins (HSP) for protein repair**

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| --- | --- |
| Static/ELF EMF | Akan et al. (2010) (human monocytic leukemia cell line, 50-Hz, increased HSP-70);  [Alfieri](https://pubmed.ncbi.nlm.nih.gov/?sort=date&term=Alfieri+RR&cauthor_id=16392967)et al. (2006) (endothelial cells, 50-Hz, stabilize HSP-70); [Bernardini](https://pubmed.ncbi.nlm.nih.gov/?sort=date&term=Bernardini+C&cauthor_id=17080460) et al. (2007) (porcine aortic endothelial cells, 50-Hz, increased HSP-70); Chen et al. (2015) (hepatoma cell lines, 50-Hz, increased HSP-27); Del Re et al. (2006) (E. Coli, 50-Hz, increase and decrease in DnaK (HSP-70) and GroEL (HSP-60) respectively, after sinusoidal or pulsed-wave exposure); Garip et al. (2010) (K562 human leukemia cells, 50-Hz, increased HSP-70 with a decrease in apoptotic cells; oxidative-stressed cells had opposite effects); Groiss et al. (2021) (human leukemic cells, increased HSP-70 and apoptosis);  [Isaković](https://pubmed.ncbi.nlm.nih.gov/?sort=date&term=Isakovi%C4%87+J&cauthor_id=31044584),  [Gorup](https://pubmed.ncbi.nlm.nih.gov/?sort=date&term=Gorup+D&cauthor_id=31044584), and [Mitrečić](https://pubmed.ncbi.nlm.nih.gov/?sort=date&term=Mitre%C4%8Di%C4%87+D&cauthor_id=31044584), (2019) (microglia-astrocyte, increased HSP-70); Kimura et al. (2008) (C. elegans, static magnetic field, increased HSP-12 and HSP-16); Li et al. (2013) (male Drosophila melanogaster, 50 Hz, HSP-22); Lin et al. (1998) (HL-60 cells, 60-Hz, increased HSP-70); Malagoli et al. (2004) (Mytilus galloprovincialis immunocytes, 50-Hz, increased HTP-70 and HSP-90); Miyakawa et al. (2001) (C. elegans, 60-Hz, increased HSP-16); Zhang et al. (2016) (Drosophila melanogaster, 50 Hz, increased HSP-22, HSP-26, and HSP-70). |
| RFR | Bourdineaud et al. (2017) (Eisenia fetida, 900 MHz RFR, increased HSP-70 gene expression); Czyz et al. (2004) (pluripotent embryonic stem, pulse modulated 1710 MHz RFR, increased HSP-70 mRNA); Daniells et al. (1998) (C. elegans, 750 and 300 MHz, HSP gene induction, lower power tended to have larger response); [Leszczynski](https://pubmed.ncbi.nlm.nih.gov/?sort=date&term=Leszczynski+D&cauthor_id=12076339) et al. (2002) (human endothelial cells, 900 MHz GSM, increased HSP-27); López-Furelos et al. (2016) (rat cerebrum and cerebellum, 900 and 2450 MHz, increased HSP-70 and HSP-90); [López-Martín](https://www.sciencedirect.com/science/article/abs/pii/S0040816620306364?via%3Dihub#!) et al. (2021) (rat thyroid parafollicular cells, 2450 MHz, decreased HSP-90); Misa Agustiño et al. (2012) (rat thyroid gland, 2450 MHz, decreased HSP-70 and HSP-90); Misa Agustiño et al. (2015) (rat thymus gland, 2450 MHz, decreased HSP-90); Ohtani et al. (2016) (rat cerebrum and cerebellum, 2140 MHz, increased HSP and heat shock transcription factor); Yang et al. (2012) (rat hippocampus, 2450-MHz, increased HSP-27 and HSP-70). |

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