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(56) References
Cited:

WO-A1-2011/091357, US-A1- 2006 084 606, WO-A2-2009/108695,
BRENNAN L A ET AL: "Mitochondrial function and redox control in the aging eye: Role of MsrA and other repair systems in cataract and macular degenerations", EXPERIMENTAL EYE RESEARCH, ACADEMIC PRESS LTD, LONDON, vol. 88, no. 2, 2 February 2009 (2009-02-02), pages 195-203, XP026072626, ISSN: 0014-4835, DOI: 10.1016/J.EXER.2008.05.018 [retrieved on 2008-06-07]
YOUSIF LEMA F ET AL: "Targeting Mitochondria with Organelle-Specific Compounds: Strategies and Applications", CHEMBIOCHEM - A EUROPEAN JOURNAL OF CHEMICAL BIOLOGY, WILEY VCH, WEINHEIM, DE, vol. 10, no. 12, 17 August 2009 (2009-08-17), pages 1939-1950, XP009167550, ISSN: 1439-4227 [retrieved on 2009-07-27]
YANG LICHUAN ET AL: "Mitochondria Targeted Peptides Protect Against 1-Methyl-4-Phenyl-1,2,3,6-Tetrahydropyridine Neurotoxicity", ANTIOXIDANTS AND REDOX SIGNALING, MARY ANN LIEBERT, LARCHMONT, NY, US, vol. 11, no. 9, 1 September 2009 (2009-09-01), pages 2095-2104, XP009167548, ISSN: 1523-0864
ALAM N M ET AL: "Reducing mitochondrial oxidative stress to treat diabetes- and age-related visual decline", ABSTRACTS OF THE ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE, SOCIETY FOR NEUROSCIENCE, WASHINGTON, DC, US, vol. 41, 1 November 2011 (2011-11-01), XP009167565, ISSN: 0190-5295

LI J ET AL: "Mitochondria-targeted antioxidant peptide SS31 attenuates high glucose-induced injury on human retinal endothelial cells", BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, ACADEMIC PRESS INC. ORLANDO, FL, US, vol. 404, no. 1, 7 January 2011 (2011-01-07), pages 349-356, XP027587037, ISSN: 0006-291X, DOI: 10.1016/J.BBRC.2010.11.122 [retrieved on 2011-01-06]

CHATURVEDI RAJNISH K ET AL: "Mitochondrial approaches for neuroprotection.", ANNALS OF THE NEW YORK ACADEMY OF SCIENCES DEC 2008, vol. 1147, December 2008 (2008-12), pages 395-412, XP009167547, ISSN: 1749-6632

X. Liang, F. Chen, H. Zhou, C. Yang, G. Sun, Q. Gao, Y. Luo,; "SS31 Protects Human RPE Cells From Oxidative Damage and Reduce Laser-Induced Choroidal Neovascularization", , 3 March 2010 (2010-03-03), XP009167611, Retrieved from the Internet:
URL:<http://www.abstractsonline.com/plan/Vi ewAbstract.aspx?mID=2511&sKey=30ba9e7c-8ff 2-4a2d-9b34-8bd3ce86ee29&cKey=bb556ca3-13a 0-40dd-8b09-f328d94cdeb2&mKey={1EA90E66-C5 48-49E0-9F05-30DA7938D511}> [retrieved on 2013-02-28]

JARRETT S G ET AL: "Mitochondrial DNA damage and its potential role in retinal degeneration", PROGRESS IN RETINAL AND EYE RESEARCH, OXFORD, GB, vol. 27, no. 6, 1 November 2008 (2008-11-01), pages 596-607, XP025670749, ISSN: 1350-9462, DOI: 10.1016/J.PRETEYERES.2008.09.001 [retrieved on 2008-09-23]

Enclosed is a translation of the patent claims in Norwegian. Please note that as per the Norwegian Patents Acts, section 66i the patent will receive protection in Norway only as far as there is agreement between the translation and the language of the application/patent granted at the EPO. In matters concerning the validity of the patent, language of the application/patent granted at the EPO will be used as the basis for the decision. The patent documents published by the EPO are available through Espacenet (<http://worldwide.espacenet.com>) or via the search engine on our website here: <https://search.patentstyret.no/>

Patentkrav

1. Peptid representert av formelen D-Arg-2'6'-Dmt-Lys-Phe-NH₂ eller Phe-D-Arg-Phe-Lys-NH₂, for anvendelse i behandling eller forebygging av en oftalmisk tilstand, hvori den oftalmiske tilstanden er makuladegenerasjon.
2. Peptidet for anvendelse ifølge krav 1, hvori peptidet er D-Arg-2'6'-Dmt-Lys-Phe-NH₂.
3. Peptidet for anvendelse ifølge krav 1, hvori peptidet er Phe-D-Arg-Phe-Lys-NH₂.
4. Peptidet for anvendelse ifølge krav 1, hvori individet er et menneske.
5. Peptidet for anvendelse ifølge krav 1, hvori peptidet er formulert for å administreres intraokulært, iontoforetisk, oralt, topisk, systemisk, intravenøst, subkuttant eller intramuskulært.
6. Peptidet for anvendelse ifølge krav 1, hvori peptidet er formulert for å administreres med et andre aktivt middel.
7. Peptidet for anvendelse ifølge krav 6, hvori det andre aktive midlet velges fra gruppen som består av: en antioksidant, en metallkomplekser, et ant-inflammatorisk legemiddel, et antibiotikum og et antihistamin.
8. Peptidet for anvendelse ifølge krav 7, hvori antioksidanten er vitamin A, vitamin C, vitamin E, lykopen, selen, α-liponsyre, koenzym Q, glutation eller et karotenoid.
9. Peptidet for anvendelse ifølge krav 6, hvori det andre aktive midlet velges fra gruppen som består av: aceclidin, acetazolamid, anecortave, apraklonidin, atropin, azapentacen, azelastin, bacitracin, befunolol, betametason, betaksolol, bimatoprost, brimonidin, brinzolamid, karbakol, karteolol, celekoksib, kloramfenikol, klortetrasyklin, ciprofloksacin, kromoglykat, kromolyn, syklopentolat, syklosporin, dapiprazol, demekarium, deksametason, diklofenak, diklorfenamid, dipivefrin, dorzolamid, ekkotiofat, emedastin, epinastin, epinefrin, erytromycin, etokszolamid, eukatropin, fludrokortison, fluormetolon, flurbiprofen, fomivirsen, framycetin, ganciklovir, gatifloksacin, gentamycin, homatropin, hydrokortison, idoksuridin, indometacin, isofluorofat, ketorolac, ketotifen, latanoprost, levobetaksolol, levobunolol, levokabastin, levofloksacin, lodoksamid, loteprednol, medryson, metazolamid, metipranolol, moksifloksacin, nafazolin, natamycin, nedokromil, neomycin, norfloksacin, ofloksacin, olopatadin, oksymetazolin, pemirolast, pegaptanib, fenylefrin, fysostigmin, pilokarpin, pindolol, pirenoksin, polmyksin B, prednisolon, proparakain, ranibizumab, rimeksolon, skopolamin, sezolamid, skvalamin, sulfacetamid, suprofen, tetrakain, tetrasyklin, tetrahydrozolin, tetryzolin, timolol, tobramycin, travoprost, triamcinolon, trifluormetazolamid, trifluridin, trimetoprim, tropikamid, unoproston, vidarbin, xylometazolin, farmasøytisk akseptable salter derav, og kombinasjoner derav.