

Farnesyltranstransferase

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In enzymology, a farnesyltranstransferase is an enzyme that catalyzes the chemical reaction: trans,trans-farnesyl diphosphate + isopentenyl diphosphate → farnesyl diphosphate + geranylgeranyl diphosphate. Thus, the two substrates of this enzyme are trans,trans-farnesyl diphosphate and isopentenyl diphosphate, whereas its two products are farnesyl diphosphate and geranylgeranyl diphosphate. This enzyme belongs to the family of transferases, specifically those transferring aryl or alkyl groups other than methyl groups. The systematic name of this enzyme class is trans,trans-farnesyl-diphosphate:isopentenyl-diphosphate farnesyltranstransferase. Other names in common use include geranylgeranyl-diphosphate synthase, geranylgeranyl pyrophosphate synthetase, geranylgeranyl-PP synthetase, farnesyltransferase, and geranylgeranyl pyrophosphate synthase. This enzyme participates in biosynthesis of steroids and terpenoid biosynthesis.

Recent Publications on Farnesyltranstransferase:



- [Isolation and characterization of the gibberellin biosynthetic gene cluster in *Sphaceloma manihoticola*. *Gibberellins \(GAs\) are tetracyclic diterpenoid phytohormones that were...* 1st October, 2008
Westfälische Wilhelms-Universität Münster, Institut für Botanik, - Appl Environ Microbiol. 2008 Sep;74\(17\):5325-39. Epub 2008 Jun 20. \(\[DOI Direct Link\]\(#\)\)](#)
- [Tumorigenic activity and therapeutic inhibition of Rheb GTPase.](#)
The AKT-mTOR pathway harbors several known and putative oncogenes and... 17th September, 2008
Cancer Biology and Genetics Program, Memorial Sloan-Kettering Cancer- Genes Dev. 2008 Aug 15;22(16):2178-88. ([DOI Direct Link](#))
- [The product chain length determination mechanism of type II geranylgeranyl diphosphate synthase requires subunit interaction.](#)
The product chain length determination mechanism of type II geranylgeranyl... 4th September, 2008
Department of Biochemistry and Engineering, Graduate School of - FEBS J. 2008 Aug;275(15):3921-33. Epub 2008 Jul 4. ([DOI Direct Link](#))
- [Farnesyltransferase inhibitors: a detailed chemical view on an elusive biological problem.](#)
Farnesyltransferase (FTase) is a zinc enzyme that has been the subject of... 4th September, 2008
Departamento de Química, Universidade do Porto, Rua do Campo Alegre, 687, - Curr Med Chem. 2008;15(15):1478-92.
- [Rejuvenating premature aging.](#)
The product chain length determination mechanism of type II geranylgeranyl... 16th August, 2008
- Nat Med. 2008 Jul;14(7):713-5. ([DOI Direct Link](#))
- [Combined treatment with statins and aminobisphosphonates extends longevity in a mouse model of human premature aging.](#)
Several human progerias, including Hutchinson-Gilford progeria syndrome... 16th August, 2008

Departamento de Bioquímica y Biología Molecular, Facultad de Medicina,- Nat Med. 2008 Jul;14(7):767-72. Epub 2008 Jun 29. ([DOI Direct Link](#))

- [Farnesyl transferase inhibitors.](#)

The AKT-mTOR pathway harbors several known and putative oncogenes and... 15th August, 2008
Department of Oncology, Montefiore Medical Center, Albert Einstein Cancer- Cancer Invest. 2008 Aug;26(7):653-61. ([DOI Direct Link](#))

- [Current treatment options and strategies for myelodysplastic syndromes.](#)

BACKGROUND: The myelodysplastic syndromes (MDS) are a group of... 12th August, 2008
Wayne State University School of Medicine, Karmanos Cancer Institute,- Expert Opin Pharmacother. 2008 Jul;9(10):1667-78. ([DOI Direct Link](#))

- [Epidermal expression of the truncated prelamin A causing Hutchinson-Gilford progeria syndrome: effects on keratinocytes, hair and skin.](#)

Hutchinson-Gilford progeria syndrome (HGPS) is an accelerated aging... 5th August, 2008
Department of Medicine, College of Physicians and Surgeons, Columbia- Hum Mol Genet. 2008 Aug 1;17(15):2357-69. Epub 2008 Apr 28. ([DOI Direct Link](#))

- [Farnesyltransferase inhibitors and their potential role in therapy for myelodysplastic syndromes and acute myeloid leukaemia.](#)

Novel strategies are required for treatment of acute myeloid leukaemia... 2nd August, 2008
Department of Haematology, Hopital Avicenne (Assistance Publique-Hopitaux- Br J Haematol. 2008 May;141(5):576-86. Epub 2008 Apr 10. ([DOI Direct Link](#))

- [Farnesyl transferase inhibitors induce extended remissions in transgenic mice with mature B cell lymphomas.](#)

BACKGROUND: We have used a mouse model based on overexpression of c-Myc in... 1st August, 2008
Cell Biology and Biochemistry Program, Biology Department, Bucknell- Mol Cancer. 2008 May 19;7:39. ([DOI Direct Link](#))

- [Farnesyl pyrophosphate synthase enantiospecificity with a chiral risedronate analog.](#)

[\[6,7-dihydro-5H-cyclopenta\[c\]pyridin-7-yl\(hydroxy\)methylene\]bis\(phosphonic acid\) \(NE-10501\): Synthetic, structural, and modeling studies.](#)

The complex formed from crystallization of human farnesyl pyrophosphate... 17th July, 2008
Department of Chemistry, University of Southern California, Los Angeles,- Bioorg Med Chem Lett. 2008 May 1;18(9):2878-82. Epub 2008 Apr 8. ([DOI Direct Link](#))

- [Farnesyltransferase inhibition in hematologic malignancies: the clinical experience with tipifarnib.](#)

Increased understanding of the cellular mechanisms associated with various... 9th July, 2008
Institute of Hematology and Medical Oncology, University of Bologna, 40138- Clin Adv Hematol Oncol. 2008 Apr;6(4):303-10.

- [Current status of clinical trials for glioblastoma.](#)

Glioblastoma, the most highly aggressive and lethal form of brain cancer,... 11th June, 2008
Toucan Capital Corp,- Rev Recent Clin Trials. 2006 Sep;1(3):265-81.

- [Molecular aspects, clinical aspects and possible treatment modalities for Costello syndrome: Proceedings from the 1st International Costello Syndrome Research Symposium 2007.](#)

The complex formed from crystallization of human farnesyl pyrophosphate... 23rd May, 2008
Department of Pediatrics, Division of Medical Genetics, University of- Am J Med Genet A. 2008 May 1;146A(9):1205-17. ([DOI Direct Link](#))

Farnesyltransferase Clinical Trials:



- [PH I Addition of Farnesyl Transferase Inhibitor to Temo for Pts w Gr 3 & 4 Malignant Gliomas](#)
Gliosarcoma; Glioblastoma; Anaplastic Astrocytoma



Farnesyltransferase Patents:

- 7291482- [Mutations affecting plasmid copy number](#)
- 6969595- [Carotenoid production from a single carbon substrate](#)
- 7064196- [Genes encoding carotenoid compounds](#)
- 7070952- [Genes encoding carotenoid compounds](#)
- 7173120- [Regulatory sequences for regulation of gene expression in plants and other organisms, and compositions, products and methods related thereto](#)
- 7183089- [Method for enhancing production of isoprenoid compounds](#)
- 7232665- [Mutations affecting carotenoid production](#)
- 7252942- [Parallel chromosomal stacking of traits in bacteria](#)
- 7288387- [Genes of strain DC413 encoding enzymes involved in biosynthesis of carotenoid compounds](#)
- 6929928- [Genes encoding carotenoid compounds](#)

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