

Phagocytosis

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; the pathogen is broken down by enzymes
c. Waste material is expelled or assimilated

Parts:

1. Pathogens
2. Phagosome
3. Lysosomes
4. Waste material
5. Cytoplasm

6. Cell membrane
Phagocytosis is the cellular process of engulfing solid particles by the cell membrane to form an internal phagosome, or "food vacuole." The phagosome is usually delivered to the lysosome, an organelle involved in the breakdown of cellular components, which fuses with the phagosome. The contents are subsequently degraded and either released extracellularly via exocytosis, or released intracellularly to undergo further processing. Phagocytosis is involved in the acquisition of nutrients for some cells, and in the immune system it is a major mechanism used to remove pathogens and cell debris. Bacteria, dead tissue cells, and small mineral particles are all examples of objects that may be phagocytosed. Phagocytosis is a specific form of endocytosis involving the vesicular internalization of solid particles, such as bacteria, and is therefore distinct from other forms of endocytosis such as pinocytosis, the vesicular internalization of various liquids. ([From the Wikipedia article Phagocytosis.](#))

Recent Publications on Phagocytosis:



- [Pretaporter, a Drosophila protein serving as a ligand for Draper in the phagocytosis of apoptotic cells.](#)
Phagocytic removal of cells undergoing apoptosis is necessary for animal... 21st November, 2009
Graduate School of Medical Science, Kanazawa University, Kanazawa,- EMBO J. 2009 Nov 19. ([DOI Direct Link](#))
- [Vascular Smooth Muscle Cell Apoptosis Induces Interleukin-1-Directed Inflammation. Effects of Hyperlipidemia-Mediated Inhibition of Phagocytosis.](#)
Rationale: Atherosclerosis is characterized by lipid accumulation in the... 21st November, 2009
Division of Cardiovascular Medicine, University of Cambridge,- Circ Res. 2009 Nov 19. ([DOI Direct Link](#))
- [Sequestering of Rac by the Yersinia effector YopO blocks Fc{gamma} receptor-mediated phagocytosis.](#)
Pathogenic Yersinia species neutralize innate immune mechanisms by... 21st November, 2009
Imperial College London, United Kingdom;- J Biol Chem. 2009 Nov 19. ([DOI Direct Link](#))
- [The role of microglia in central nervous system immunity and glioma immunology.](#)

- The central nervous system (CNS) historically has been considered an...* 21st November, 2009
Department of Neurological Surgery, University of California at San- J Clin Neurosci. 2009 Nov 17. ([DOI Direct Link](#))
- [Syk is a novel target of arsenic trioxide \(ATO\) and is involved in the toxic effect of ATO in human neutrophils.](#)
The anticancer drug arsenic trioxide (ATO) is known to be toxic for human... 21st November, 2009
Laboratoire de recherche en inflammation et physiologie des granulocytes,- Toxicol In Vitro. 2009 Nov 16. ([DOI Direct Link](#))
 - [C/EBP epsilon directs granulocytic versus monocytic lineage determination and confers chemotactic function via Hlx.](#)
OBJECTIVE: Mutations in the C/EBPepsilon gene have been identified in the... 21st November, 2009
Section of Hematology, Department of Internal Medicine and Yale Cancer- Exp Hematol. 2009 Nov 16. ([DOI Direct Link](#))
 - [iNOS activity is necessary for the cytotoxic and immunogenic effects of doxorubicin in human colon cancer cells.](#)
ABSTRACT: BACKGROUND: Doxorubicin is one of the few chemotherapeutic drugs... 21st November, 2009
- Mol Cancer. 2009 Nov 19;8(1):108. ([DOI Direct Link](#))
 - [Effects of Acute Cold Stress on Phagocytosis of Apoptotic Cells: The Role of Corticosterone.](#)
Background and Aims: Stress can alter many aspects of the immune response,... 20th November, 2009
Department of Biochemistry and Immunology, Ribeirao Preto Medical School,-
Neuroimmunomodulation. 2009 Nov 17;17(2):79-87. ([DOI Direct Link](#))
 - [Phagocytosis: Invitation to a Feast.](#)
How does a macrophage find an apoptotic cell for ingestion? A recent study... 20th November, 2009
Program in Cell Biology, Department of Pediatrics, National Jewish Health,- Curr Biol. 2009 Nov 17;19(21):R989-R991. ([DOI Direct Link](#))
 - [C1q enhances microglial clearance of apoptotic neurons and neuronal blebs, and modulates subsequent inflammatory cytokine production.](#)
The expression of C1q, a recognition molecule of the complement system, is... 19th November, 2009
Department of Molecular Biology and Biochemistry, University of- J Neurochem. 2009 Nov 16. ([DOI Direct Link](#))
 - [A systems biology approach to study the phagosomal proteome modulated by mycobacterial infections.](#)
Systems biology and proteomics have recently contributed significantly to... 18th November, 2009
- Int J Clin Exp Med. 2009 Sep 30;2(3):233-47.
 - [Aspergillus fumigatus LaeA-mediated phagocytosis is associated with a decreased hydrophobin layer.](#)
Aspergillus fumigatus is the causal agent of the life threatening disease... 18th November, 2009
Department of Medical Microbiology and Immunology, University of- Infect Immun. 2009 Nov 16. ([DOI Direct Link](#))
 - [Major secretory antigens of the helminth Fasciola hepatica activate a suppressive dendritic cell phenotype that attenuates Th17 cells but fails to activate Th2 immune responses.](#)
Fasciola hepatica is a helminth pathogen that drives Th2/Treg immune... 18th November, 2009
Parasite Immune Modulation Group, School of Nursing, Faculty of Science- Infect Immun. 2009 Nov 16. ([DOI Direct Link](#))
 - [Electron microscopic documentation of late changes in permanent fillers and clinical management of granulomas in affected patients.](#)
BACKGROUND: The manufacturers of permanent injectable fillers claim that... 18th November, 2009
Ueber- Dermatol Surg. 2009 Oct;35 Suppl 2:1681-8. ([DOI Direct Link](#))
 - [Priming Effects of Lipopolysaccharide and Inflammatory Cytokines on Canine Granulocytes.](#)
Granulocytes play a pivotal role in natural immunity. Under inflammatory... 17th November, 2009
School of Veterinary Medicine, Kitasato University.- J Vet Med Sci. 2009 Nov 13.

BioNews Results for Phagocytosis

- [Phagocytosis of gadolinium chloride or zymosan induces simultaneous upregulation of hepcidin- and downregulation of hemojuvelin- and Fpn-1-gene expression in murine liver](#)

International Journal of Impotence Research: Oct 28 2009 7:30AM Matching: phagocytosis

Phagocytosis Patents:



- 7601888- [Nucleic acid constructs and methods for producing altered seed oil compositions](#)
- 7608241- [Radiolabeling method](#)
- 7608452- [Polynucleotides encoding cytokine receptor zcytor19](#)
- 7608702- [PUFA polyketide synthase systems and uses thereof](#)
- 7608703- [PUFA polyketide synthase systems and uses thereof](#)
- 7608704- [Secreted proteins](#)
- 7608753- [PUFA polyketide synthase systems and uses thereof](#)
- 7610074- [Multi-functional plasmon-resonant contrast agents for optical coherence tomography](#)
- 7611702- [TNF-alpha blocker treatment for enterocolitis associated with immunostimulatory therapeutic antibody therapy](#)
- 7611704- [Compositions and methods for treating viral infections using antibodies and immunoconjugates to aminophospholipids](#)
- 7611712- [Immunogenic compositions capable of eliciting Th1 immune responses comprising an HIV-1 MA myristate binding site polypeptide](#)
- 7605245- [PUFA polyketide synthase systems and uses thereof](#)
- 7605238- [Human CTLA-4 antibodies and their uses](#)
- 7605236- [Antibodies that immunospecifically bind to B lymphocyte stimulator protein](#)
- 7604811- [Oral-intestinal vaccines against diseases caused by enteropathic organisms using antigens encapsulated within biodegradable-biocompatible microspheres](#)
- 7604821- [Porifera-based therapeutic compositions for treating and preventing skin diseases](#)
- 7604823- [Synergistic HIV/AIDS and/or immune disease phyto-nutraceutical composition](#)
- 7604948- [Biomarkers for diagnosing an autism spectrum disorder](#)
- 7604959- [Cell-based assays employing voltage and calcium dyes](#)
- 7604973- [DNA encoding hyaluronan synthase from Pasteurella multocida and methods of use](#)
- 7604975- [Glycosylated LPXTGases and uses thereof](#)
- 7605182- [Compounds that selectively bind to membranes of apoptotic cells](#)
- 7605183- [Inhibitory or blocking agents of molecular generating and/or inducing functions](#)
- 7605235- [Anti-tissue factor antibodies and compositions](#)
- 7611733- [Nanoparticle formulations of platinum compounds](#)
- 7611839- [Methods for diagnosing RCC and other solid tumors](#)
- 7615539- [Nucleic acid-lipophilic conjugates](#)
- 7615543- [Treatment and prevention of tissue damage](#)
- 7615646- [Chiral indole intermediates and their fluorescent cyanine dyes containing functional groups](#)
- 7618628- [CD16A binding proteins and use for the treatment of immune disorders](#)
- 7618631- [Treatment with anti-ErbB2 antibodies and EGFR-targeted drugs](#)
- 7618639- [Synergistic phytoceutical compositions](#)

- 7618791- [Methods of detecting cancer with antibodies to cytokine receptor ZCYTOR19](#)
- 7618793- [Identifying agents for decreasing cellular toxicity associated with huntingin polypeptide](#)
- 7618960- [Morpholine type cinnamide compound](#)
- 7619004- [Methods for concomitant administration of colchicine and macrolide antibiotics](#)
- 7615380- [Methods for modulating an immune response by modulating KRC activity](#)
- 7615227- [Use of CpG oligodeoxynucleotides to induce angiogenesis](#)
- 7615223- [Selected immunoconjugates for binding to aminophospholipids](#)
- 7611874- [PUFA polyketide synthase systems and uses thereof](#)
- 7611875- [PUFA polyketide synthase systems and uses thereof](#)
- 7611876- [PUFA polyketide synthase systems and uses thereof](#)
- 7612038- [Biglycan and related therapeutics and methods of use](#)
- 7612174- [Scavenger receptor](#)
- 7612175- [Scavenger receptor](#)
- 7612179- [antibodies binding to a C-terminal fragment of apolipoprotein E](#)
- 7612181- [Dual variable domain immunoglobulin and uses thereof](#)
- 7615213- [Antibodies against human interleukin-13 and pharmaceutical compositions thereof](#)
- 7615221- [Compositions and methods for treating cancer](#)
- 7619068- [Ovr110 antibody compositions and methods of use](#)

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