

SQSTM1 Antibody (monoclonal) (M01)

Mouse monoclonal antibody raised against a full length recombinant SQSTM1.

Catalog # AT4033a

Specification

SQSTM1 Antibody (monoclonal) (M01) - Product Information

Application	IF, WB, E
Primary Accession	Q13501
Other Accession	BC003139
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2a kappa
Calculated MW	47687

SQSTM1 Antibody (monoclonal) (M01) - Additional Information

Gene ID 8878

Other Names

Sequestosome-1, EBI3-associated protein of 60 kDa, EBIAP, p60, Phosphotyrosine-independent ligand for the Lck SH2 domain of 62 kDa, Ubiquitin-binding protein p62, SQSTM1, ORCA, OSIL

Target/Specificity

SQSTM1 (AAH03139.1, 1 a.a. ~ 440 a.a) full-length recombinant protein with GST tag. MW of the GST tag alone is 26 kDa.

Dilution

WB~~1:500~1000

Format

Clear, colorless solution in phosphate buffered saline, pH 7.2 .

Storage

Store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.

Precautions

SQSTM1 Antibody (monoclonal) (M01) is for research use only and not for use in diagnostic or therapeutic procedures.

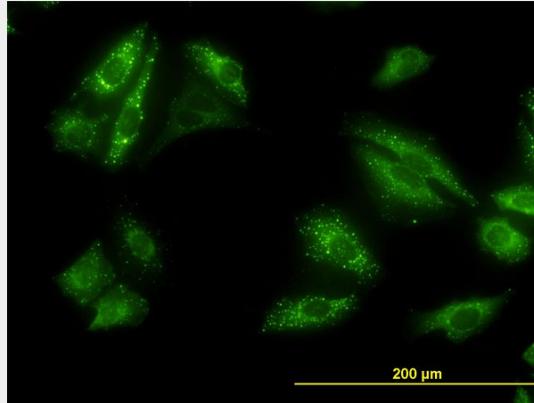
SQSTM1 Antibody (monoclonal) (M01) - Protocols

Provided below are standard protocols that you may find useful for product applications.

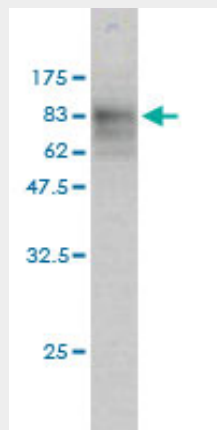
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)

- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

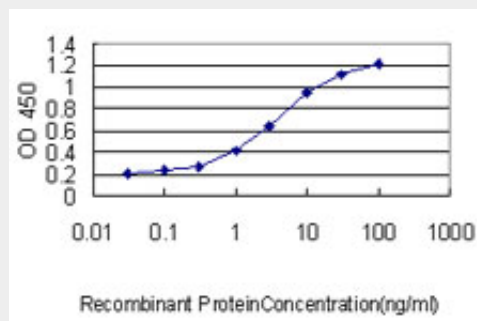
SQSTM1 Antibody (monoclonal) (M01) - Images



Immunofluorescence of monoclonal antibody to SQSTM1 on HeLa cell. [antibody concentration 10 ug/ml]



Antibody Reactive Against Recombinant Protein. Western Blot detection against Immunogen (74.14 KDa) .



Detection limit for recombinant GST tagged SQSTM1 is approximately 0.03ng/ml as a capture antibody.

SQSTM1 Antibody (monoclonal) (M01) - Background

This gene encodes a multifunctional protein that binds ubiquitin and regulates activation of the nuclear factor kappa-B (NF- κ B) signaling pathway. The protein functions as a scaffolding/adaptor protein in concert with TNF receptor-associated factor 6 to mediate activation of NF- κ B in response to upstream signals. Alternatively spliced transcript variants encoding either the same or different isoforms have been identified for this gene. Mutations in this gene result in sporadic and familial Paget disease of bone.

SQSTM1 Antibody (monoclonal) (M01) - References

1. Quantitative proteomics identifies NCOA4 as the cargo receptor mediating ferritinophagy. Mancias JD, Wang X, Gygi SP, Harper JW, Kimmelman AC. *Nature*. 2014 Mar 30. doi: 10.1038/nature13148. 2. Dual role for CHOP in the crosstalk between autophagy and apoptosis to determine cell fate in response to amino acid deprivation. B'chir W, Chaveroux C, Carraro V, Averous J, Maurin AC, Jousse C, Muranishi Y, Parry L, Fournoux P, Bruhat A. *Cell Signal*. 2014 Mar 18;26(7):1385-1391. 3. Impaired OMA1-dependent cleavage of OPA1 and reduced DRP1 fission activity combine to prevent mitophagy in cells that are dependent on oxidative phosphorylation. MacVicar TD, Lane DJ. *Cell Sci*. 2014 May 15;127(Pt 10):2313-25. doi: 10.1242/jcs.144337. Epub 2014 Mar 14. 4. Defective autophagy impairs ATF3 activity and worsens lung injury during endotoxemia. Aguirre A, Lopez-Alonso I, Gonzalez-Lopez A, Amado-Rodriguez L, Batalla-Solis E, Astudillo A, Blazquez-Prieto J, Fernandez AF, Galvan JA, Dos Santos CC, Albaiceta GM. *Mol Med (Berl)*. 2014 Feb 19. 5. The non-receptor tyrosine kinase Ack1 regulates the fate of activated EGFR by inducing trafficking to the p62/NBR1 pre-autophagosome. Jones S, Cunningham DL, Rappoport JZ, Heath JK. *Cell Sci*. 2014 Mar 1;127(Pt 5):994-1006. doi: 10.1242/jcs.136895. Epub 2014 Jan 10. 6. MIR376A is a Regulator of Starvation-Induced Autophagy. Korkmaz G, Tekirdag KA, Ozturk DG, Kosar A, Sezerman OU, Gozuacik D. *PLoS One*. 2013 Dec 16;8(12):e82556. doi: 10.1371/journal.pone.0082556. eCollection 2013. 7. Autophagy variation within a cell population determines cell fate through selective degradation of Fap-1. Gump JM, Staskiewicz L, Morgan MJ, Bamberg A, Riches DW, Thorburn A. *Nat Cell Biol*. 2014 Jan;16(1):47-54. doi: 10.1038/ncb2886. Epub 2013 Dec 8. 8. Autosis is a Na⁺, K⁺-ATPase-regulated form of cell death triggered by autophagy-inducing peptides, starvation, and hypoxia-ischemia. Liu Y, Shoji-Kawata S, Sumpter RM Jr, Wei Y, Ginet V, Zhang L, Posner B, Tran KA, Green DR, Xavier RJ, Shaw SY, Clarke PG, Puyal J, Levine B. *Proc Natl Acad Sci U S A*. 2013 Dec 17;110(51):20364-71. doi: 10.1073/pnas.1319661110. Epub 2013 Nov 25. 9. New Autophagy Reporter Mice Reveal Dynamics of Proximal Tubular Autophagy. Li L, Wang ZV, Hill JA, Lin FJ. *Am Soc Nephrol*. 2013 Oct 31. 10. C9orf72 frontotemporal lobar degeneration is characterised by frequent neuronal sense and antisense RNA foci. Mizielinska S, Lashley T, Norona FE, Clayton EL, Ridler CE, Fratta P, Isaacs AM. *Acta Neuropathol*. 2013 Oct 30. 11. Melatonin administration decreases adipogenesis in the liver of ob/ob mice through autophagy modulation. de Luxan-Delgado B, Caballero B, Potes Y, Rubio-Gonzalez A, Rodriguez I, Gutierrez-Rodriguez J, Solano JJ, Coto-Montes AJ. *Pineal Res*. 2013 Oct 18. doi: 10.1111/jpi.12104. 12. Excitotoxic glutamate insults block autophagic flux in hippocampal neurons. Kulbe JR, Mulcahy Levy JM, Coultrap SJ, Thorburn A, Ulrich Bayer K. *Brain Research Volume 1542*, 13 January 2014, Pages 12-19. 13. Autophagic-lysosomal pathway is the main proteolytic system modified in the skeletal muscle of esophageal cancer patients. Tardif N, Klaude M, Lundell L, Thorell A, Rooyackers O. *Am J Clin Nutr*. 2013 Dec;98(6):1485-92. doi: 10.3945/ajcn.113.063859. Epub 2013 Oct 9. 14. Impairment of Autophagic Flux Promotes Glucose Reperfusion-Induced Neuro2A Cell Death after Glucose Deprivation. Jang BG, Choi BY, Kim JH, Kim MJ, Sohn M, Suh SW. *PLoS One*. 2013 Oct 4;8(10):e76466. 15. Regulation of Mammalian Autophagy by Class II and III PI 3-Kinases through PI3P Synthesis. Devereaux K. *PLoS One*. 2013 Oct 3;8(10):e76405. doi: 10.1371/journal.pone.0076405. 16. p62/SQSTM1 is required for cell survival of apoptosis-resistant bone metastatic prostate cancer cell lines. Chang MA, Morgado M, Warren CR, Hinton CV, Farach-Carson MC, Delk NA. *Prostate*. 2013 Sep 30. doi: 10.1002/pros.22737. 17. REACTIVE OXYGEN SPECIES REGULATION OF AUTOPHAGY IN SKELETAL MUSCLES. Rahman M, Mofarrahi M, Kristof AS, Nkengfac B, Harel S, Hussain S. *DrAntioxid Redox Signal*. 2013 Nov 1. 18. The ubiquitin ligase parkin mediates resistance to intracellular pathogens. Manzanillo PS, Ayres JS, Watson RO, Collins AC, Souza G, Rae CS, Schneider DS, Nakamura K, Shiloh MU, Cox J. *Nature*. 2013 Sep 4. doi:

10.1038/nature12566.19.Critical Role of FoxO3a in Alcohol-Induced Autophagy and Hepatotoxicity.Ni HM, Du K, You M, Ding WX*Am J Pathol.* 2013 Oct 1. pii: S0002-9440(13)00596-8. doi: 10.1016/j.ajpath.2013.08.011.20.The eIF2 γ /ATF4 pathway is essential for stress-induced autophagy gene expression.B'chir W, Maurin AC, Carraro V, Averous J, Jousse C, Muranishi Y, Parry L, Stepien G, Fafournoux P, Bruhat A.*Nucleic Acids Res.* 2013 Jun 26.21.Presenilin-1 Regulates the Expression of p62 to Govern p62-dependent Tau Degradation.Tung YT, Wang BJ, Hsu WM, Hu MK, Her GM, Huang WP, Liao YF*Mol Neurobiol.* 2013 Jun 23.22.RalGDS-Dependent Cardiomyocyte Autophagy is Required for Load-Induced Ventricular Hypertrophy.Rifki OF, Bodemann BO, Battiprolu PK, White MA, Hill JA.*J Mol Cell Cardiol.* 2013 Jun;59:128-38. doi: 10.1016/j.yjmcc.2013.02.015.23.Signalling pathways regulating muscle mass in ageing skeletal muscle. The role of the IGF1-Akt-mTOR-FoxO pathway.Sandri M, Barberi L, Bijlsma AY, Blaauw B, Dyar KA, Milan G, Mammucari C, Meskers CG, Pallafacchina G, Paoli A, Pion D, Roceri M, Romanello V, Serrano AL, Toniolo L, Larsson L, Maier AB, Munoz-Canoves P, Musaro A, Pende M, Reggiani C, Rizzuto R, Schiaffino S*Bioogerontology.* 2013 May 19.24.Impairment of autophagy decreases ventilator-induced lung injury by blockade of the NF κ B pathway.Lopez-Alonso I, Aguirre A, Gonzalez-Lopez A, Fernandez AF, Amado-Rodriguez L, Astudillo A, Batalla-Solis E, Albaiceta GM*Am J Physiol Lung Cell Mol Physiol.* 2013 Apr 12.25.p62/SQSTM1 Enhances NOD2-Mediated Signaling and Cytokine Production through Stabilizing NOD2 Oligomerization.Park S, Ha SD, Coleman M, Meshkibaf S, Kim SO*PLoS One.* 2013;8(2):e57138. doi: 10.1371/journal.pone.0057138. Epub 2013 Feb 20.26.Site-specific Mtm1 mutagenesis by an AAV-Cre vector reveals that myotubularin is essential in adult muscle.Joubert R, Vignaud A, Le M, Moal C, Messaddeq N, Buj-Bello A*Hum Mol Genet.* 2013 Feb 10.27.Dysregulation of autophagy in chronic lymphocytic leukemia with the small-molecule Sirtuin inhibitor Tenovin-6.MacCallum SF, Groves MJ, James J, Murray K, Appleyard V, Prescott AR, Drbal AA, Nicolaou A, Cunningham J, Haydock S, Ganley IG, Westwood NJ, Coates PJ, Lain S, Tauro S*Sci Rep.* 2013 Feb 14;3:1275. doi: 10.1038/srep01275.28.Dopamine and its metabolites in cathepsin D heterozygous mice before and after MPTP administration.Crabtree D, Boyer-Guittaut M, Ouyang X, Fineberg N, Zhang J*Neurosci Lett.* 2013 Feb 4. pii: S0304-3940(13)00077-3. doi: 10.1016/j.neulet.2013.01.035.29.Host Cell Autophagy Modulates Early Stages of Adenovirus Infections in Airway Epithelial Cells.Zeng X, Carlin CR.*J Virol.* 2012 Dec 12.30.Astrocyte-Specific Overexpression of Nrf2 Delays Motor Pathology and Synuclein Aggregation throughout the CNS in the Alpha-Synuclein Mutant (A53T) Mouse Model.Gan L, Vargas MR, Johnson DA, Johnson JA.*J Neurosci.* 2012 Dec 5;32(49):17775-87. doi: 10.1523/JNEUROSCI.3049-12.2012.31.Hyperactivation of the mammalian degenerin MDEG promotes caspase-8 activation and apoptosis.Pan JA, Fan Y, Gandhirajan RK, Madesh M, Zong WX.*J Biol Chem.* 2012 Dec 13.32.Suppression of Autophagic Flux by Bile Acids in Hepatocytes.Manley S, Ni HM, Kong B, Apte U, Guo G, Ding WX*Toxicol Sci.* 2013 Nov 4.33.Defective autophagy and mTORC1 signaling in myotubularin null mice.Fetalvero KM, Yu Y, Goetschkes M, Liang G, Valdez RA, Gould T, Triantafellow E, Bergling S, Loureiro J, Eash J, Lin V, Porter JA, Finan PM, Walsh K, Yang Y, Mao X, Murphy LO.*Mol Cell Biol.* 2012 Oct 29. [Epub ahead of print]34.Recombinant protein rVP1 upregulates BECN1-independent autophagy, MAPK1/3 phosphorylation and MMP9 activity via WIP1/WIP2 to promote macrophage migration.Liao CC, Ho MY, Liang SM, Liang C*Autophagy.* 2013 Jan;9(1):5-19. doi: 10.4161/auto.22379. Epub 2012 Oct 10.35.(-)-Epigallocatechin-3-Gallate Induces Non-Apoptotic Cell Death in Human Cancer Cells via ROS-Mediated Lysosomal Membrane Permeabilization.Zhang Y, Yang ND, Zhou F, Shen T, Duan T, Zhou J, Shi Y, Zhu XQ, Shen HM.*PLoS One.* 2012;7(10):e46749. doi: 10.1371/journal.pone.0046749. Epub 2012 Oct 8.36.West Nile Virus (WNV) Replication Is Independent of Autophagy in Mammalian Cells.Vandergaast R, Fredericksen BL.*PLoS One.* 2012;7(9):e45800. doi: 10.1371/journal.pone.0045800. Epub 2012 Sep 21.37.Rotenone Inhibits Autophagic Flux Prior to Inducing Cell Death.Mader BJ, Pivtoraiko VN, Flippo HM, Klocke BJ, Roth KA, Mangieri LR, Shackajj.*ACS Chem. Neurosci.* DOI: 10.1021/cn300145z38.Tissue Specific Induction of p62/Sqstm1 by Farnesoid X Receptor.Williams JA, Thomas AM, Li G, Kong B, Zhan L, Inaba Y, Xie W, Ding WX, Guo GL.*PLoS One.* 2012;7(8):e43961. Epub 2012 Aug 27.39.Sorafenib has potent anti-tumor activity in multiple myeloma in vitro, ex vivo and in vivo, in the 5T33MM mouse model.Kharaziha P, De Raeve H, Fristedt C, Li Q, Gruber A, Johnsson P, Kokaraki G, Panzar M, Laane E, Osterborg A, Zhivotovsky B, Jernberg-Wiklund H, Grandt D, Celsing F, Bjorkholm M, Vanderkerken K, Panaretakis T.*Cancer Res.* 2012 Sep 4.40.Genetic Ablation of Nrf2/Antioxidant Response Pathway in

Alexander Disease Mice Reduces Hippocampal Gliosis but Does Not Impact Survival. Hagemann TL, Jobe EM, Messing A. *PLoS One*. 2012;7(5):e37304. Epub 2012 May 31.41. MAP1B Interaction with the FW Domain of the Autophagic Receptor Nbr1 Facilitates Its Association to the Microtubule Network. Marchbank K, Waters S, Roberts RG, Solomon E, Whitehouse CA. *Int J Cell Biol*. 2012;2012:208014. Epub 2012 May 10.42. Liver-specific loss of atg5 causes persistent activation of nrf2 and protects against acetaminophen-induced liver injury. Ni HM, Boggess N, McGill MR, Lebofsky M, Borude P, Apte U, Jaeschke H, Ding WX. *Toxicol Sci*. 2012 Jun;127(2):438-50. Epub 2012 Apr 5.43. Chronic Activation of mTOR Complex 1 Is Sufficient to Cause Hepatocellular Carcinoma in Mice. Menon S, Yecies JL, Zhang HH, Howell JJ, Nicholatos J, Harputlugil E, Bronson RT, Kwiatkowski DJ, Manning BD. *Sci Signal*. 2012 Mar 27;5(217):ra24.44. Progressive neuronal inclusion formation and axonal degeneration in CHMP2B mutant transgenic mice. Ghazi-Noori S, Froud KE, Mizielinska S, Powell C, Smidak M, Fernandez de Marco M, O'Malley C, Farmer M, Parkinson N, Fisher EM, Asante EA, Brandner S, Collinge J, Isaacs AM. *Brain*. 2012 Mar;135(Pt 3):819-32.45. A centronuclear myopathy-dynamin 2 mutation impairs autophagy in mice. Durieux AC, Vassilopoulos S, Laine J, Fraysse B, Brinas L, Prudhon B, Castells J, Freyssenet D, Bonne G, Guicheney P, Bitoun M. *Traffic*. 2012 Feb 28. doi: 10.1111/j.1600-0854.2012.01348.x. [Epub ahead of print]46. Targeting of distinct signaling cascades and cancer-associated fibroblasts define the efficacy of Sorafenib against prostate cancer cells. Kharaziha P, Rodriguez P, Li Q, Rundqvist H, Bjorklund AC, Augsten M, Ullen A, Egevad L, Wiklund P, Nilsson S, Kroemer G, Grandner D, Panaretakis T. *Cell Death Dis*. 2012 Jan 26;3:e262. doi: 10.1038/cddis.2012.1.47. Class III PI3K Vps34 plays an essential role in autophagy and in heart and liver function. Jaber N, Dou Z, Chen JS, Catanzaro J, Jiang YP, Ballou LM, Selinger E, Ouyang X, Lin RZ, Zhang J, Zong WX. *Proc Natl Acad Sci U S A*. 2012 Feb 7;109(6):2003-8. Epub 2012 Jan 23.48. Cathepsin Cleavage of Sirtuin-1 in Endothelial Progenitor Cells Mediates Stress-Induced Premature Senescence. Chen J, Xavier S, Moskowitz-Kassai E, Chen R, Lu CY, Sanduski K, Spes A, Turk B, Goligorsky MS. *Am J Pathol*. 2012 Jan 9. [Epub ahead of print]49. Autophagic degradation of tau in primary neurons and its enhancement by trehalose. Kruger U, Wang Y, Kumar S, Mandelkow EM. *Neurobiol Aging*. 2011 Dec 12.50. Mutations in UBQLN2 cause dominant X-linked juvenile and adult-onset ALS and ALS/dementia. Deng HX, Chen W, Hong ST, Boycott KM, Gorrie GH, Siddique N, Yang Y, Fecto F, Shi Y, Zhai H, Jiang H, Hirano M, Rampersaud E, Jansen GH, Donkervoort S, Bigio EH, Brooks BR, Ajroud K, Sufit RL, Haines JL, Mugnaini E, Pericak-Vance MA, Siddique T. *Nature*. 2011 Aug 21;477(7363):211-5. doi: 10.1038/nature10353.51. Modulation of pediatric brain tumor autophagy and chemosensitivity. Levy JM, Thorburn A. *J Neurooncol*. 2011 Aug 13. [Epub ahead of print]52. Autophagy promotes T-cell survival through degradation of proteins of the cell death machinery. Kovacs JR, Li C, Yang Q, Li G, Garcia IG, Ju S, Roodman DG, Windle JJ, Zhang X, Lu B. *Cell Death Differ*. 2011 Jun 10. doi: 10.1038/cdd.2011.78. [Epub ahead of print]53. Pancreatic cancers require autophagy for tumor growth. Yang S, Wang X, Contino G, Liesa M, Sahin E, Ying H, Bause A, Li Y, Stommel JM, Dell'antonio G, Mautner J, Tonon G, Haigis M, Shiriha OS, Doglioni C, Bardeesy N, Kimmelman AC. *Genes Dev*. 2011 Apr 1;25(7):717-29. Epub 2011 Mar 15.54. Neighbor of Brca1 gene (Nbr1) functions as a negative regulator of postnatal osteoblastic bone formation and p38 MAPK activity. Whitehouse CA, Waters S, Marchbank K, Horner A, McGowan NW, V Jovanovic J, Xavier GM, Kashima TG, Cobourne MT, Richards GO, Sharpe PT, Skerry TM, Grigoriadis AE, Solomon E. *Proc Natl Acad Sci U S A*. 2010 Jun 29. [Epub ahead of print]55. 14-3-3 Tau regulates Beclin 1 and is required for autophagy. Wang B, Ling S, Lin WC. *PLoS One*. 2010 Apr 29;5(4):e10409.56. In Vivo Requirement for Atg5 in Antigen Presentation by Dendritic Cells. Lee HK, Mattei LM, Steinberg BE, Alberts P, Lee YH, Chervonsky A, Mizushima N, Grinstein S, Iwasaki A. *Immunity*. 2010 Feb 26;32(2):227-39. Epub 2010 Feb 18.57. Dual role of 3-methyladenine in modulation of autophagy via different temporal patterns of inhibition on class I and III phosphoinositide 3-kinase. Wu YT, Tan HL, Shui G, Bauvy C, Huang Q, Wenk MR, Ong CN, Codogno P, Shen HM. *J Biol Chem*. 2010 Apr 2;285(14):10850-61. Epub 2010 Feb 1.58. Spred2 interaction with the late endosomal protein NBR1 down-regulates fibroblast growth factor receptor signaling. Mardakheh FK, Yekezare M, Machesky LM, Heath JK. *J Cell Biol*. 2009 Oct 12. [Epub ahead of print]59. Defective autophagy in neurons and astrocytes from mice deficient in PI(3,5)P2. Ferguson CJ, Lenk GM, Meisler MH. *Hum Mol Genet*. 2009 Dec 15;18(24):4868-78. Epub 2009 Sep 29.60. Sequestosome 1/p62 links familial ALS mutant SOD1 to LC3 via an ubiquitin-independent mechanism. Gal J, Strom AL, Kwinter DM, Kilty R, Zhang J, Shi P, Fu W, Wooten

MW, Zhu H.J Neurochem. 2009 Nov;111(4):1062-73. Epub 2009 Sep 18.61.Monitoring autophagic degradation of p62/SQSTM1.Bjorkoy G, Lamark T, Pankiv S, Overvatn A, Brech A, Johansen T.Methods Enzymol. 2009;452:181-97.62.Loss of Autophagy Diminishes Pancreatic [?] Cell Mass and Function with Resultant Hyperglycemia.Jung HS, Chung KW, Won Kim J, Kim J, Komatsu M, Tanaka K, Nguyen YH, Kang TM, Yoon KH, Kim JW, Jeong YT, Han MS, Lee MK, Kim KW, Shin J, Lee MS.Cell Metab. 2008 Oct;8(4):318-24

SQSTM1 Antibody (monoclonal) (M01) - Citations

- [A combination therapy for KRAS-driven lung adenocarcinomas using lipophilic bisphosphonates and rapamycin.](#)