

Recent patents related to Notch signalling

Notch signalling, which was identified a century ago, is crucial for the development and homeostasis of most tissues. In their Review on page 357, Andersson and Lendahl

highlight disorders in which Notch signalling is dysregulated — such as T cell leukaemia — and discuss how the Notch pathway could be therapeutically targeted.

Here in TABLE 1 we highlight patent applications published in the past year related to Notch signalling. Data were researched using the [Espacenet](#) database.

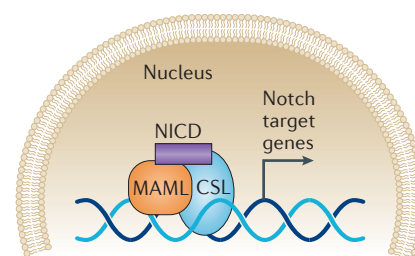


Table 1 | Recent patents related to Notch signalling

Publication numbers	Applicants	Subject
CN 103386137	Academy of Military Medical Sciences	A method for improving the ability of eukaryotic cells to resist infection with coxsackie B virus by transfecting the cells with DNA encoding the Notch receptor intracellular domain
WO 2013116054	Albert Einstein College of Medicine	Methods of treating obesity using agents that enter the hypothalamus and inhibit IκB kinase β, NF-κB or Notch signalling
US 2013064832	M. Aikawa <i>et al.</i> (Brigham and Womens' Hospital)	Methods of treating metabolic disease or cardiovascular complications using agents that inhibit the Notch signalling pathway, and methods for determining whether a patient is at increased risk of developing these conditions by measuring Notch activity in biological samples
SG 193873	Columbia University	Human Notch 3-based fusion proteins that act as decoy inhibitors of Notch 3 signalling; useful for inhibiting angiogenesis and treating tumours, ovarian cancer and metabolic disorders
US 2013178391	Dana-Farber Cancer Institute <i>et al.</i>	Methods for predicting the treatment response to a γ-secretase inhibitor or another agent that inhibits Notch, based on the expression profiles of biomarker genes in Notch-mediated cancers
EP 2606884	École Polytechnique Fédérale de Lausanne	Inhibitors of the Notch signalling pathway that are selected from 6-4[-(tertbutyl)-phenoxy]pyridine-3-amine, cyclopiazonic acid and lasalocid, and their use in treating cancer
CA 2841178	Eli Lilly	A compound that inhibits the Notch signalling pathway; useful for treating cancer
WO 2013188851	Fred Hutchinson Cancer Research Center	The use of Notch activators in the <i>ex vivo</i> expansion of myogenic stem cells (and potentially human muscle-derived cells), which then maintain their engraftment potential
US 2014093889	Genentech	Notch 3 agonist antibodies, including antibodies that bind to an epitope of the first LIN12 domain
US 2013331343	Harvard College	Methods of using a Notch ligand to direct cell fate and behaviour, such as stem cell differentiation
WO 2013167620	INSERM <i>et al.</i>	Materials and methods for regulating immune pathways using Notch agonists, which can be used to enhance the TGFβ response of CD4 ⁺ CD25 ⁻ cells
KR 20130055462	Korea Research Institute of Bioscience & Biotechnology	A human monoclonal antibody against Notch 3; useful for diagnosing lung cancer, pancreatic cancer, uterine or cervical cancer, ovarian cancer, breast cancer and prostate cancer
EP 2633066	Merck Sharp & Dohme	A method for identifying a Notch-sparing γ-secretase inhibitor by evaluating ε-cleavage and γ-cleavage in a single APP-based substrate
US 2013053386	W. Colby Brown <i>et al.</i> (Merck Sharp & Dohme)	A novel class of diaryl ether derivatives that inhibit the processing of APP by γ-secretase while sparing the Notch signalling pathway; useful for treating or preventing Alzheimer's disease without the development of gastrointestinal effects
WO 2013059302	Nationwide Children's Hospital	Products and methods for treating or preventing an aortic abdominal aneurysm by inhibiting Notch signalling
WO 2013074596	OncoMed Pharmaceuticals	Notch mutations that are associated with enhanced receptor signalling, and methods of treating a solid tumour that has cells with increased levels of the Notch receptor intracellular domain
US 2013296536	OncoMed Pharmaceuticals	Antibodies that specifically bind to a non-ligand-binding region of the extracellular domain of one or more human Notch receptors, such as Notch 2 and/or Notch 3, and inhibit tumour growth
WO 2013147793	R. J. Fleming <i>et al.</i>	Polypeptides that contain sequences of a Serrate protein and inhibit the function of the Notch pathway; antibodies that bind to the Notch-inhibitory region of a Serrate protein
US 2013209428 HK 1139039	SanBio	A method of inducing the differentiation of bone marrow stromal cells to neural cells or skeletal muscle cells by introducing a Notch-related gene into the cells, and a method of further differentiating these neural cells into dopaminergic neurons or acetylcholinergic neurons
US 2013022966	Trojan Technologies	Notch inhibitors that modulate the expression and/or activity of proteins in the Notch signalling pathway, and methods of using them to diagnose and treat cancer

APP, amyloid precursor protein; IκB, inhibitor of NF-κB; INSERM, Institut National de la Santé et de la Recherche Médicale; NF-κB, nuclear factor-κB; TGFβ, transforming growth factor-β.