

Patenting Animal Inventions

Recombinant DNA technology, which originated in the 1970s, provides methods for selectively modifying the genomes of multicellular animals. Individual genes can be transferred between animals of the same or different species. Existing genes can be cut and spliced to form new gene combinations with new and improved functions. By comparison with selective breeding methods, recombinant DNA technology provides a more rapid and reliable way to produce animals with desired traits. There is now an entire industry whose products and processes are derived from genetically engineered living organisms or parts of organisms.

The biotechnology industry was jump-started in 1980 by a landmark U.S. Supreme Court decision that broadly construed the definition of patentable subject matter in the Patent Act to include live or dead organisms that were made with human intervention. In 1987, the U.S. Patent and Trademark Office (PTO) announced that transgenic nonhuman multicellular animals would be considered for patenting if they were new and not naturally-occurring.

The first transgenic animal patent was granted in 1988 to two Harvard University scientists for inventing an “oncomouse”- a mouse whose somatic cells and germ cells contained a recombinant activated cancer gene sequence, which made it highly susceptible to developing tumors. Since then, many transgenic animal inventions have appeared in the patent literature, including, for example: mice with specific gene additions or deletions, for use as human disease models; farm animals that produce large amounts of human pharmaceutical proteins in their milk; rapidly-growing salmon; and cloned transgenic animals.

Animal inventions can be claimed in utility patents, which grant exclusive rights for a term of 20 years from filing. On average, this provides an effective patent life of 17 years or less. In exchange for publicly disclosing an invention, a patentee is given the right to exclude others from making, using, selling, offering to sell or importing the patented invention without his permission. The patentee's freedom to use the invention may be restricted by regulations, or by conflicting rights of other patent holders. Even so, patents are valuable business assets: they provide intangible property rights that can be sold, assigned, transferred, bartered, licensed, and used to attract investors.

Patenting transgenic animals is still controversial. Animal rights groups and environmental activists see patents as the driving force behind genetic experimentation. They believe that genetic experimentation increases animal suffering and poses risks for the survival of native animal species and the food supply upon which both animals and humans depend. But biotechnology industry groups consider patents as essential for attracting funding for animal biotechnology. They argue that the benefits to mankind outweigh the potential risks of the technology, and justify the granting of patents.

Interestingly, the PTO's decision to grant transgenic animal patents has never been adjudicated. The Animal Legal Defense Fund filed a suit in the late 1980's that was dismissed for lack of standing. It's likely that animal patenting will continue for as long as transgenic animals remain profitable, or until alternative measures are adopted to control the use and reproduction of these animals.

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