

## Biotech patents surge from institutions off the beaten track

A spike in the number of patents issued to universities in 2013 over 2012 could be taken as a sign that biotech innovation in academia is booming. A recent report from the patent analysis company IP Checkups of Berkeley, California, shows that the number of specialized life-sciences patents issued by the US Patent and Trade Office (USPTO) doubled, rising from 1,146 in 2012 to 2,242 in 2013. A detailed look at the data revealed a trend toward issuing patents to universities that don't claim high-profile, Nobel-laureate-heavy departments, such as Stanford or Johns Hopkins University (Table 1). That, coupled with efforts to improve the efficiency of patent processing at the USPTO, and an increase in intellectual property (IP) literacy at academic research centers since Bayh-Dole, are factors that may have contributed to the patent bump.

Another more direct explanation for the rise is backlog clearance. Indeed, at the 2014 Biotechnology Industry Organization International Convention, held in San Diego in

June, USPTO deputy director, Michelle K. Lee, said the agency was undertaking efforts to clear the backlog in pending patent applications and shorten the waiting time between filing and granting a patent. Lee said the USPTO had hired more examiners and that the agency was drawing on expertise to address the highly specialized technological innovations. In addition, she said the agency was opening satellite offices in Dallas and Silicon Valley, in addition to the one it has in Detroit.

The jump in issued patents—1,000 more patents in 2013 over the previous year—took place at universities not well-known for patenting (Table 1). For instance, the University of Pittsburgh went from no patents granted in 2012 to 20 granted in 2013. Similarly, the University of Colorado's numbers climbed from 0 to 13. One important caveat is that the search criteria for the IP Checkups analysis focused solely on drug development biotech and excluded most industrial applications. Another is that patents were counted only

when the university was listed as the first assignee. Consequently, the IP Checkups analysis represents a hike specifically in this type of issuance at the universities.

Another possible explanation for the spike is that tech transfer and academics are more aware of IP than ever before. "All [tech transfer] offices are better than 10 years ago," states Rick Silva, senior director of the University of Colorado (Denver) Tech Transfer office. He describes a steady rise in the number of invention disclosures heard by his office. At the University of Pittsburgh, Marc Malandro, director, office of enterprise

**Table 1** A selection of universities whose patent issuances increased by ten or more from 2012 to 2013

University	2012	2013
Ohio State University		36
Scripps Research Institute	3	21
Northwestern University	1	20
Tufts	1	20
University of Minnesota		20
Columbia University	2	16
University Of Arkansas	1	18
University of Pittsburgh		20
Dartmouth College		15
University of Medicine & Dentistry New Jersey	1	17
Washington University (STL)		16
Yeshiva University	2	11
Case Western Reserve University		15
University Of Tokyo		14
University Of British Columbia		13
University Of Colorado		13
University Of Georgia		13
University of Kentucky		12
University of Rochester		11
Vanderbilt University		10
Osaka University		10

Selection criteria included patents issued in drug development, where the university is the first assignee. Source: IP Checkups.

development, says, "Court cases, prior art, and types of claims are increasing our own education."

Academics may have become more entrepreneurial than in the past thanks to policies such as the Bayh-Dole Act, now approaching its 25-year anniversary. Malandro also notes differences in how discoveries in genomics are patented. "Patents are more specific now. At one time, a company could identify a broad [gene] sequence and bundle a number of related gene patents related to that sequence. Today it is much better to focus on a well-defined sequence and file multiple patents."

Finally, in 2011, the America Invents Act shifted the US patent system from first to invent to first to file (*Nat. Biotechnol.* 29, 953–954, 2011), a change that may have prompted a bulge in patent applications. Malandro explains, "More patents [in the US] are now being filed closer to when inventions are disclosed."

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Patents oil the biotech industry's cogs.

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