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Title	Direct and mediated ties to universities: 'Scientific' absorptive capacity and innovation performance of pharmaceutical firms
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Abstract	Exernal literature on firm-university collaboration has emphasized two different strategies that firms in science based industries adopt in order to source scientific knowledge and expertise. On the one hand, firms engage in direct research collaborations with universities. On the other hand, firms establish indirect, mediated, ties to universities by engaging in research collaborations with dedicated biotech firms (DBFs) that are themselves strongly linked to universities - with the DBF taking the role of 'broker'. We argue that the relative benefits of direct and mediated ties depend on the extent to which firms have organized their R&D to facilitate the absorption, assimilation, transformation and exploitation of scientific knowledge, which we coin 'scientific absorptive capacity'. Drawing on patent and publication data in a panel of 33 vertically integrate pharmaceutical firms, we find that direct university collaboration is more beneficial for firms with relatively high scientific absorptive capacity, while only mediated ties are associated with greater innovative performance for firms with relatively low scientific absorptive capacity. The latter association is reduced if the mediated ties are with top universities. Our findings are suggestive of the importance of a 'fit' betweeen the nature of a firm's R&D organization and its strategy to access scientific knowledge.
Keywords	R&D collaboration, alliance portflios, industry-science linkages, scientific absorptive capacity
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