

Table 4. Functional *in vitro* studies on infection abilities of SARS-CoV-2 to cells expressing animal ACE2 receptor.

Methods	Successful Infection	Unsuccessful Infection	Reference
HeLa human cell lines that express ACE2 receptors of other animals.	Chinese horseshoe bat, civet, and pig.	Mouse.	Zhou et al. ¹
HEK293T human cell lines that express ACE2 receptors of other animals.	High: Rabbit, cat, fox, dog, pig, and cow. Intermediate: monkey, pangolin, civet, raccoon dog, goat, mouse, and sheep. Low: little brown bat and fulvous fruit bat.	Guinea pig, rat, European hedgehog, lesser hedgehog tenrec, and chicken.	Wu et al. ²
293T human cell lines that express ACE2 receptors of other animals.	High: Monkey, cat, dog, rabbit, and pangolin. Intermediate: Chinese rufous horseshoe bat, Mexican free-tailed bat, hog badger, civet, and ferret.	Rat and mouse.	Zhao et al. ³
	High: Camel, cattle, horse, goat, sheep, cat, rabbit, and pangolin. Intermediate: Chinese rufous horseshoe bat and	Donkey, guinea pig, rat, and mouse.	Li et al. ⁴

¹ Zhou, P., Yang, X., Wang, X. et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. Nature 579, 270–273 (2020).

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² Wu, L., Chen, Q., Liu, K., Wang, J., Han, P., Zhang, Y., Hu, Y., Meng, Y., Pan, X., Qiao, C., Tian, S., Du, P., Song, H., Shi, W., Qi, J., Wang, H. W., Yan, J., Gao, G. F., & Wang, Q. (2020). Broad host range of SARS-CoV-2 and the molecular basis for SARS-CoV-2 binding to cat ACE2. Cell discovery, 6, 68. <https://doi.org/10.1038/s41421-020-00210-9>

³ Zhao X, Chen D, Szabla R, Zheng M, Li G, Du P, Zheng S, Li X, Song C, Li R, Guo J-T, Junop M, Zeng H, Lin H. 2020. Broad and differential animal angiotensin-converting enzyme 2 receptor usage by SARS-CoV-2. J Virol 94:e00940-20. <https://doi.org/10.1128/JVI.00940-20>.

⁴ Li, Y., Wang, H., Tang, X., Fang, S., Ma, D., et al. (2020). SARS-CoV-2 and three related coronaviruses utilize multiple ACE2 orthologs and are potently blocked by an improved ACE2-Ig. Journal of virology, JVI.01283-20. Advance online publication. <https://doi.org/10.1128/JVI.01283-20>

	civet.		
Different animal-derived cell lines.	Primates, cat, rabbit, and pig.	Chinese rufous horseshoe bat.	Chu et al. ⁵
	Japanese house bat.	Chinese rufous horseshoe bats, Small bent-winged bat, and lesser bamboo bat.	Lau et al. ⁶
	Pig.	N/A	Meekins et al. ⁷
	Halcyon horseshoe bat, monkey, and dog.	Mouse, pig, cow, and hamster.	Hoffman et al. ⁸

⁵ Chu, H., Chan, J. F., Yuen, T. T., Shuai, H., Yuan, S., et al. (2020). Comparative tropism, replication kinetics, and cell damage profiling of SARS-CoV-2 and SARS-CoV with implications for clinical manifestations, transmissibility, and laboratory studies of COVID-19: an observational study. *The Lancet. Microbe*, 1(1), e14–e23. [https://doi.org/10.1016/S2666-5247\(20\)30004-5](https://doi.org/10.1016/S2666-5247(20)30004-5)

⁶ Lau, S., Wong, A., Luk, H., Li, K., Fung, J., et al. (2020). Differential Tropism of SARS-CoV and SARS-CoV-2 in Bat Cells. *Emerging infectious diseases*, 26(12), 10.3201/eid2612.202308. Advance online publication. <https://doi.org/10.3201/eid2612.202308>

⁷ Meekins, D. A., Morozov, I., Trujillo, J. D., Gaudreault, N. N., Bold, D., Carossino, M., Artiaga, B. L., Indran, S. V., Kwon, T., Balaraman, V., Madden, D. W., Feldmann, H., Henningson, J., Ma, W., Balasuriya, U., & Richt, A. (2020). Susceptibility of swine cells and domestic pigs to SARS-CoV-2. *Emerging microbes & infections*, 1–24. Advance online publication. <https://doi.org/10.1080/22221751.2020.1831405>

⁸ Hoffmann, M., Kleine-Weber, H., Schroeder, S., Krüger, N., Herrler, T., et al. (2020). SARS-CoV-2 Cell Entry Depends on ACE2 and TMPRSS2 and Is Blocked by a Clinically Proven Protease Inhibitor. *Cell*, 181(2), 271–280.e8. <https://doi.org/10.1016/j.cell.2020.02.052>