

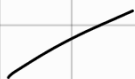
Matching short query to long sequence:

query base pair length: $|q| \approx 200$

reference base pair length: $|r| \approx 50\,000$

number references: $|R| \approx 20\,000$

finding best
segment in a
reference
|

method	extra storage	runtime
<ul style="list-style-type: none">- sliding window<ul style="list-style-type: none">- size = q- stride = 1		$\approx 50\,000$ $O(r)$
<ul style="list-style-type: none">- 2d look up table<ul style="list-style-type: none">- k-mer & reference number ⇒ to window index- window size and stride adjustable- calculate best fitting segment with a dictionary	65 000 • number of windows	≈ 200 $O(k)$ • (window size - stride) ≈ 200
<ul style="list-style-type: none">- histogram<ul style="list-style-type: none">↳ keeps no locality↳ statistically not significant enough↳ not working	65 000 • $ R $	

