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Determining whether observed eukaryotic cell migration indicates chemotactic responsiveness or random chemokinetic motion

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Highlights

- Chemotaxis, cell motion directed by a gradient, can be mistaken for random motion
- We calculated gradients in frequently-used assays and modeled resulting cell motion
- We found that observed cell motion is often mostly due to random motion
- Chemotaxis is likely over-reported, especially for epithelial-derived cancer cells

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