

# Surface Extensions of 3T3 Cells towards Distant Infrared Light Sources

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## **Abstract.**

Using a specially designed phase-contrast light microscope with an infrared spot illuminator we found that ~25% of 3T3 cells were able to extend pseudopodia towards single microscopic infrared light sources nearby. If the cells were offered a pair of such light sources next to each other, 47% of the cells extended towards them. In the latter case 30% of the responding cells extended separate pseudopodia towards each individual light source of a pair. The strongest responses were observed if the infrared light sources emitted light of wavelengths in the range of 800-900 nm intermittently at rates of 30-60 pulses per min. The temperature increases of the irradiated spots can be shown to be negligible. The results suggest that the cells are able to sense specific infrared wavelengths and to determine the direction of individual sources.