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Effect of TNF autocrine signaling on dosage-dependent NF-kappaB response to lipopolysaccharide stimulation JAEWOOK JOO, BRYAN CARSON, CATHY BRANDA, JENS POSCHET, Sandia National Labs — We will present the dosage-dependent characteristics of NF-kappaB translocation patterns from single macrophages stimulated by E. Coli lipopolysacchride. The NF-kappaB translocation patterns in single cells are found to be quite heterogeneous: The patterns are more heterogeneous with low dosage stimulation than with high dosage stimulation. For low dosage stimulation, most of cells take a rising pattern and we demonstrate that it is due to the TNFalpha autocrine signaling effect. The above results are predicted and explained by a computational model, and corroborated and verified by a single cell fluorescence imaging technique.

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