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Heinz Siedentop* (h.s@lmu.de), Mathematisches Institut, Ludwig-Maximilians-Universität München, Theresienstr. 39, 80333 München, Germany, and **Li Chen**. *Blow-Up of Solutions to the Patlak-Keller-Segel Equation in Dimension $\nu \geq 2$.*

We prove a blow-up criterion for the solutions to the ν -dimensional Patlak-Keller-Segel equation in the whole space. The condition is new in dimension three and higher. In dimension two it is exactly Dolbeault's and Perthame's blow-up condition, i.e., blow-up occurs, if the total mass exceeds 8π . (Received September 03, 2017)