1036-11-66 **Ben Brubaker** (brubaker@math.mit.edu), Department of Mathematics, M.I.T., Cambridge, MA 02139, **Daniel Bump** (bump@sporadic.stanford.edu), Department of Mathematics, Stanford University, Stanford, CA 94305, and **Solomon Friedberg*** (friedber@bc.edu), Department of Mathematics, Boston College, Chestnut Hill, MA 02467. *Weyl group multiple Dirichlet series and Gelfand-Tsetlin patterns.*

The authors and J. Hoffstein defined a multiple Dirichlet series in r complex variables whose p-parts are obtained by assigning products of n-th order Gauss sums (for fixed n) to strict Gelfand-Tsetlin patterns of rank r. In this work, we prove that these series have meromorphic continuation to $\mathbb{C}^r$ and satisfy a group of functional equations isomorphic to S_{r+1}, the Weyl group of A_r. The proof is an intricate blend of number theory and combinatorics. (Received January 09, 2008)