

Antitrypanosomal isoflavan quinones from *Abrus precatorius*

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Abstract

Human African trypanosomiasis is a neglected tropical disease in sub Saharan Africa that is fatal if left untreated. In a search for new natural products with antitrypanosomal activity, we recently identified abruquinones B and I from *Abrus precatorius* as potent in vitro trypanocidal compounds with high selectivity indices. To obtain sufficient compound for in vivo efficacy tests in mice, a second batch of plant material was re-collected and extracted. However, the chemical profiles of the two batches differed, and additional abruquinones were isolated and identified by HR-ESI-MS, and 1D and 2D NMR (¹H, ¹³C, COSY, HMBC, HSQC, and NOESY) spectroscopy. Abruquinones J (1), K (2), and L (3) were new, while abruquinones A (4) and D (5) were known from the first batch of plant material. The absolute configuration of compounds 1 to 3 was determined by comparison of electronic circular dichroism (ECD) spectra with calculated ECD data. Compounds 2 to 5 showed high in vitro activity against *T. b. rhodesiense* (IC₅₀ of 0.01, 0.02, 0.02 and 0.01 μM, respectively), and remarkable SIs of 508, 374, 1379, and 668, respectively.