A detailed chemical analysis of a Philippine marine sponge *Smenospongia* sp. has been performed. This study yielded four new metabolites, 5-bromo-L-tryptophan (1), 5-bromobrane (2), 5,6-dibromoabrine (3) and 5-bromoindole-3-acetic acid (4). The pyrroloiminoquinone alkaloid, makaluvamine O (5) as well as 5,6-dibromotryptamine (6), aureol (7) and furospinulosin 1 (8) were also isolated. Although 1 and 4 have been synthesized previously, this is the first report on the isolation of these compounds from a natural source. The furanoesterterpene furospinulosin 1 (8) was obtained for the first time from the genus *Smenospongia*. The structures of all compounds were established by spectroscopic methods (UV, IR, 1D and 2D NMR, MS, [α]D). The cytotoxic potential of 1–8 was evaluated in a panel of isogenic HCT-116 human colon tumor cell lines.