P-084: BLACK COHOSH EXTRACTS ACTIVATE HUMAN OPIATE RECEPTORS: IMPLICATION FOR ITS USE IN THE TREATMENT OF MENOPAUSAL SYMPTOMS

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Cimicifuga racemosa (L.) Nutt., or *Actaea racemosa* L. (Ranunculaceae), commonly known as black cohosh, is widely used for the treatment of climacteric complaints. Its mechanisms of action are poorly understood. In this study, we investigated potential CNS mechanisms by examining the ability of several black cohosh extracts (BCE) in binding to and activating human opioid mu (hMOR) and delta (hDOR) receptors. Methanolic (100%)-, ethanolic (75%)- and 2-propanolic (40%) BCE were used. The ethanolic extract (300 μg/ml) produced 77±4% displacement of [^{3}H]DAMGO binding to CHO-hMOR with a *Ki* value of 63 μg/ml. Methanolic and 2-propanolic BCE showed comparable affinity to hMOR. Furthermore, we found that the ethanolic extract activated hMOR in the GTPγS functional assay EC_{50} of 66 μg/ml and Emax 155±4%. The action of BCE was best characterized as a mixed agonist at hMOR. Similar, but weaker activity was observed for these extracts at the hDOR. These results demonstrate for the first time that black cohosh extracts contain active principles that bind to opiate receptors and activate these receptors, supporting its use for the treatment of menopausal symptoms.