Plants are used as medicines since time immemorial. India has a rich heritage of using medicinal plants in traditional medicines such as Ayurveda, Siddha and Unani besides folklore practices. In this study, an attempt was made to find out the antibacterial potential of *L.inermis* leaves which is commonly used to treat various ailments. The leaves of *Lawsonia inermis* was extracted with three different solvents namely hexane, chloroform and ethyl alcohol. All these extracts tested their activity against standard strains of *Staphylococcus aureus, Escherichia coli, Klebsiella pneumonia, Proteus, and Pseudomonas aeruginosa*. Only the ethyl alcoholic extract showed activity at concentration of 500 µg/ml onwards. Whereas the other extracts (hexane, chloroform) did not inhibit the growth of bacteria even at concentration of 1000 µg/ml. On separation the three extracts of *Lawsonia inermis* leaves with Gravity Coloumn Chromatography (hexane, chloroform and ethyl alcohol) each extracts yielded 5 compounds. When antibacterial activity of different fractions of the extracts were tested, only the ethyl alcoholic extract fraction 1, 3 and 4 showed antibacterial activity at concentration of 250 µg/ml and more. None of the fractions of hexane and chloroform possess this activity. Chromatographic and spectrum analysis studies revealed that the compound present in the ethyl alcoholic extract was found to be 2-hydroxy-1, 4-naphthoquinone (Lawson), 6,7-dihydroxycoumarin (Esculetin) and 7,8 –dihydroxy-6-methoxycoumarin (fraxetin) respectively.