Uji potensi ekstrak kasar usus bulu babi diadema setosum (Lenke, 1778) sebagai antikanker menggunakan metode Brine Shrimp Lethality Test (BSLT) dan uji in vitro pada sel kanker serviks (HeLa) = Anticancer potential test of crude extract from sea urchin intestine of diadema setosum use Brine Shrimp Lethality Test (BSLT) methode and in vitro test towards cervical cancer cells (HeLa Cells) / Helma Namira

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Abstrak

ABSTRAK
Diadema setosum termasuk ke dalam kelompok hewan Echinodermata yang mampu memproduksi senyawa metabolit sekunder. Senyawa yang dihasilkan dari ekstrak kasar usus D. setosum diduga memiliki potensi aktivitas antikanker. Penelitian mengenai potensi ini belum pernah dilakukan, oleh karena itu dilakukan penelitian untuk menguji potensi antikanker dengan melihat nilai LC₅₀yang dimiliki oleh ekstrak kasar usus D. setosum menggunakan metode Brine Shrimp Lethality Test (BSLT). Aktivitas sitotoksik dari ekstrak kasar usus D. setosum kemudian di uji secara in vitro untuk melihat pengaruh penambahan ekstrak pada pertumbuhan sel kanker serviks HeLa. Hasil Uji BSLT menunjukkan bahwa ekstrak kasar usus D. setosum terbukti aktif memiliki senyawa toksik yang cukup tinggi dengan nilai LC₅₀sebesar 291, 034 ppm. Pengujian aktivitas antikanker secara in vitro menunjukkan bahwa pemberian ekstrak kasar D. Setosum dengan konsentrasi 50, 100, dan 150 ppm serta waktu inkubasi selama 24 jam, memberikan pengaruh terhadap pertumbuhan sel HeLa. Pengaruh paling jelas tampak dari persentase viabilitas sel HeLa yang menurun seiring bertambahnya konsentrasi. Persentase viabilitas terendah ditunjukkan pada konsentrasi 150 ppm yaitu sebesar 0% . Berdasarkan hasil pengujian tersebut diperoleh kesimpulan bahwa ekstrak kasar D. Setosum terbukti mempunyai potensi aktivitas antikanker.
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ABSTRACT
  <hr /> Diadema setosum is one of the animals that belongs to Echinoderm group which has the ability to produce secondary metabolite compound. This chemical compound which was originated from crude extract of D. setosum has been expected potentially have anticancer activity. Research about this potential anticancer activity has never been done, therefore we conducted a study to test the anticancer potential by observing LC₅₀concentration of D.setosum intestine crude extract, using Brine Shrimp Letahlity Test Methode. Citotoxic activity from D. Setosum intestine crude extract was observed by in vitro test to see the effect of crude extract addition towards cervical cancer cells (HeLa cells) growth. Result of BSLT test shown that D. setosum crude extract actively proven has quite high toxic compound with LC₅₀concentration 291, 034 ppm. Anticancer activity use in vitro test shown that additioning of D. setosum crude extract with different concentration 50 ppm, 100 ppm, and 150 ppm within 24 hours of incubation time, can affect the growth of HeLa Cells.

Efectiveness of D.setosum crude extract can be seen through the lowering of viability percentage of cervical cancer cells. The lowest viability has been shown in concentration 150 ppm with percentage 0%. Based on these results we can conclude that crude extract of D.setosum intestine potentially has anticancer activity.