Human Platelet Lysate (HPL) as an Alternative Media Propagation of T47D Cells Line

Title	Human Platelet Lysate (HPL) as an Alternative Media Propagation of T47D Cells Line
Author Order	1 of 3
Accreditation	2
Abstract	Fetal bovine serum (FBS) is a gold standard as a supplement to cell and tissue culture media. This is due to a large number of Growth Factor (GF) contained in FBS. However, the use of FBS is at risk of transferring endotoxins, prions, bacteria and viruses from animals to humans, so it is risky to be used on cell therapy. Human Platelet Lysate (HPL) is a medium that can be developed as an alternative cell growth medium. The advantage of HPL is that it does not contain aggregate platelets so it does not cause the cells to clot. This condition causes HPL to be used as a substitute medium replacing FBS for cell propagation. The use of HPL for cell propagation has been widely reported. However, the use of HPL in cancer cells has not been found. Thus, this study aims to see the effectiveness of HPL as a T47D cell culture medium. The study began with donor selection with criteria for the male sex, the blood type O, the age Ã¢Â‰Â¤35 years. Furthermore, the Platelet Concentrate (PC) was processed into HPL then measured pH, total protein and albumin levels. The cell viability was measured using the MTT assay to determine the ability of cell proliferation when propagation using HPL. The doubling time test was carried out as in the cell proliferation test. However, the incubation was carried out for 24 h, 48 h and 72 h and the HPL concentration used was 5%. The result shows that HPL 10% and 20% ability to increase proliferation better than the FBS 10%. HPL with a 5% concentration ability to shortens the doubling time than FBS 10% (doubling time is less than 19.94 h). It this study, cell proliferation is influenced by the pH of HPL and total protein but not by the amount albumin.Keywords: Human Platelet Lysate, Proliferation, T47D cell line, total protein, albumin.
Publisher Name	Indonesian Society for Cancer Chemoprevention
Publish Date	2020-03-06
Publish Year	2020
Doi	DOI: 10.14499/indonesianjcanchemoprev11iss1pp36-45
Citation	
Source	Indonesian Journal of Cancer Chemoprevention
Source Issue	Vol 11, No 1 (2020)
Source Page	36-45
Url	https://ijcc.chemoprev.org/index.php/ijcc/article/downloadSuppFile/323/11
Author	DIANI MENTARI, S.Si., M.Sc.