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Biomarker discovery in bisphenol A stimulated human breast cancer cells

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Gel electrophoresis is used for the protein separation. These gel electrophoresis techniques are played important role in proteomics and genomics. Gel electrophoresis is one of the most important methods for the protein separation. The protein mixtures are separated by isoelectric point and molecular weight in two dimensional gel electrophoresis. Small amount of protein can also be separate with the help of gel electrophoresis.

Results:

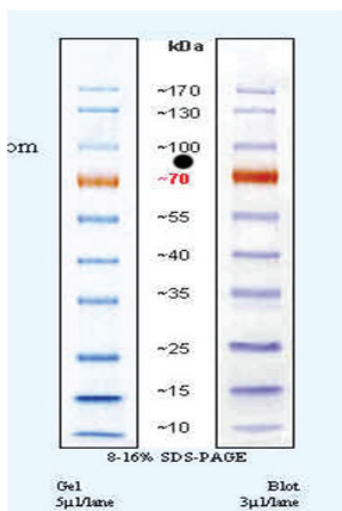


Figure 1

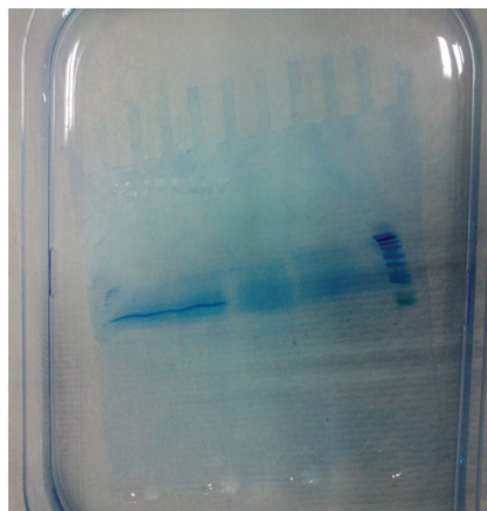


Figure 2

First figure is the standard result, while second figures shown the result obtain during the practical in lab. In the figure 2 seven columns are visible, out of them six columns for sample and one columns for ladder. First lane at the right hand side is a ladder, than another next three are control sample and last three are treated samples.

Discussion: According to the practical procedure each sample was loaded into the wells using a gel loading tip. In the above figure 1 is thermo scientific page ruler, there are 10 recombinant unstained protein markers are shown and they have molecular mass between 10 KDa to 170 KDa. In the figure 2, at the right side of the first lane found some visible band, which is ladder. In the next three line is control sample, there was no bands visible. Than next three line are treated sample, where some bands are visible. With the help of the figure 1 is the standard, comparing these figure with figure 1, it may be molecular mass of protein around 40 KDa. In all the three treated sample biomarker bisphenol A is present. These presences of bisphenol A help us to tell that biomarker must have upregulated this protein expression. Bisphenol A is used in the manufacture of polycarbonate plastic. Low amount of bisphenol A in animal and in human may cause endocrine disruption.(Carwile, J et al.,2009) Bisphenol A(BAP) is potential mammary carcinogen. Epoxy resin are made from Bisphenol A. These epoxy resins are used in household product like plastic product and other device like food and beverage cans.(Christopher I.Li 2010) Bisphenol A has estrogenic and anti androgenic effects.

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