

Deep Learning for cell classification

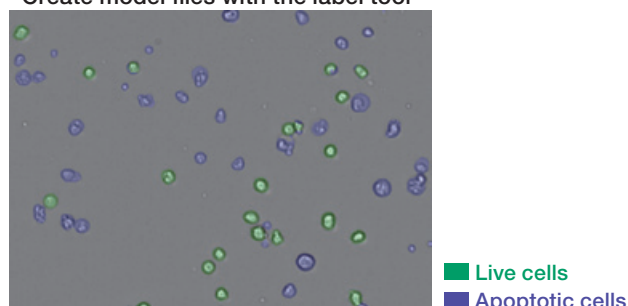
KEYWORD 1) Deep Learning 2) Morphology 3) Apoptosis

OBJECTIVE Jarkat cells induced cell death by Anti-Fas antibody were classified by Cell³iMager duos and Deep Learning.

Materials and Methods

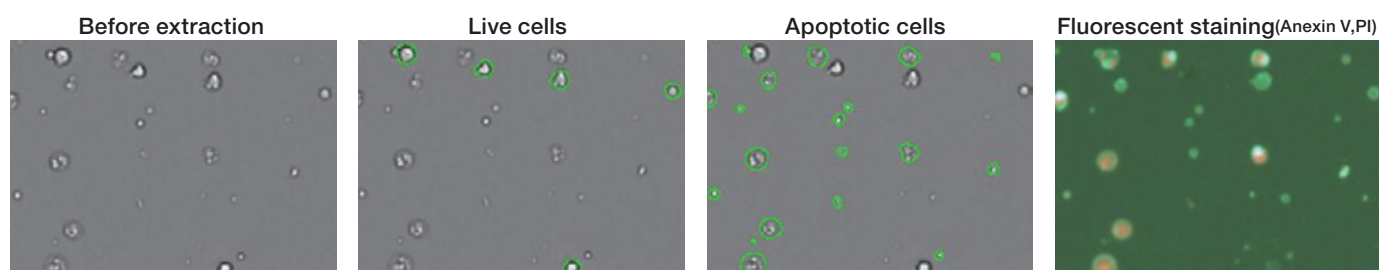
Cell Line : Jarkat cells (Nacalai)
 Media : RPMI1640 (Nacalai)
 (10% FBS+50ng/ml 2-ME)
 Reagent : Anti-Fas antibody (Medical & Biological laboratories)
 Plate : 96 well-plate F-bottom (SUMITOMO)
 Seeding cell density : 10,000 cells/well
 Staining : Annexin V-FITC Apoptosis detection kit (Nacalai)
 Culture days : 2 days
 Imaging methods : High magnification lens

Create model files with the label tool

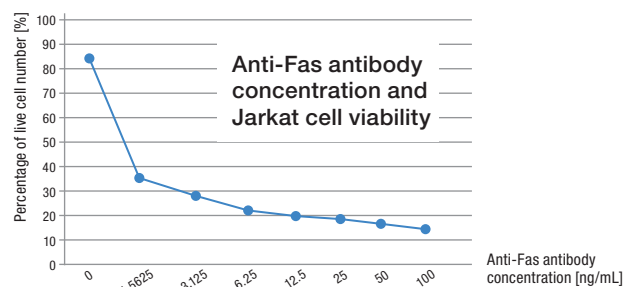


Results and Conclusions

- Model files enable classification of cells. It is possible to calculate cell number and area for each cell
- We can confirm the decrease of cell viability, depending on the concentration of Anti-Fas antibody. (Label free)



Number of living cells	Anti-Fas antibody concentration						
	0	1.5625	3.125	6.25	12.5	25	100
2,838	1,519	1,339	802	739	461	467	329
3,480	1,666	1,202	791	641	501	435	317
3,559	1,458	1,023	665	633	499	359	246



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