

CELL-BASED ASSAYS

Melanin content

The pigment melanin is produced in melanosomes by melanocytes in a complex process called melanogenesis. The melanocyte interacts with endocrine, immune, inflammatory and central nervous systems, and its activity is also regulated by extrinsic factors such as ultraviolet radiation and drugs^{1,2}.

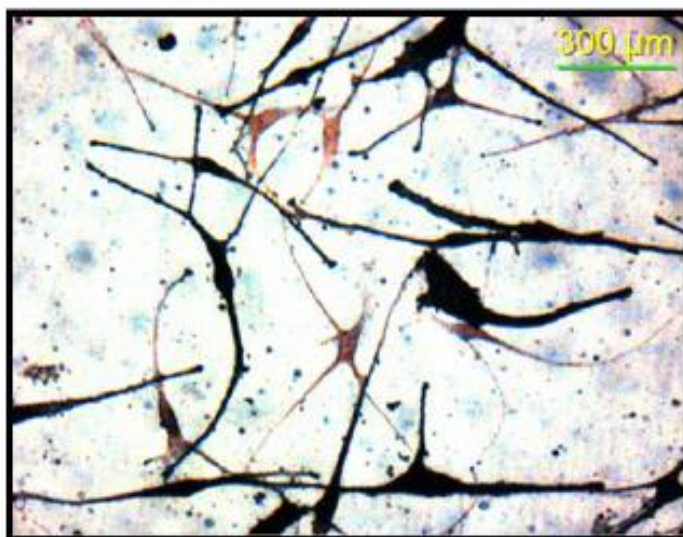
Test system: Human melanocytes

Main Read-outs: Melanin

Experimental number: Three wells per group in triplicate.

Reference Item: Kojic acid.

Validation Data



Medium



Kojic acid

Figure: Evaluation of melanin stain after kojic acid (depigmenting agent) treatment of human melanocyte in culture. Melanin production was assessed following 96 hours of incubation with kojic acid 1 mM.

To avoid bias and to allow reproducibility and reliability of all in vitro experiments we follow the “Guidance on Good Cell Culture Practice”³. All in vitro experiments are performed in triplicate wells for each condition and repeated at least three times.

References:

- ¹Cichorek M, Wachulska M, Stasiewicz A, Tyimińska A. Skin melanocytes: biology and development. *Postepy Dermatol Alergol.* 2013 Feb; 30(1): 30–41.
- ²Moreira, C.G.; Horinouchi, C.D.S.; Souza-Filho, C.S.; Campos, F.R.; Barison, A.; Cabrini, D.A.; Otuki, M.F. Hyperpigmentant activity of leaves and flowers extracts of *Pyrostegia venusta* on murine B16F10 melanoma. *J. Ethnopharmacology*, 141 (2012), pp. 1005-1011.
- ³Coecke S; Balls M; Bove G; Davis J; Gstraunthaler G, Hartung T, Hay R, Merten OW, Price A, Schechtman L, Stacey G, Stokes W. Guidance on good cell culture practice: a report of the second ECVAM task force on good cell culture practice. *Altern Lab Anim.* 2005, 33(3):261-87.