

## DAFTAR PUSTAKA

- Abdullah, K.M., Abdullah, A., Johnson, M.L., Bilski, J.J., Petry, K., Redmer, D.A., *et al.*, 2003. Effects of aloe vera on gap junctional intercellular communication and proliferation of human diabetic and nondiabetic skin fibroblasts. *J. Altern. Complement. Med.* 9(5): 711–718.
- Abebe, W., Mozaffari, M., 2010. Endothelial dysfunction in diabetes: potential application of circulating markers as advanced diagnostic and prognostic tools. *EPMA J.* 1: 32–45.
- Alberti, K.G.M.M., Zimmet, P.Z., 1998. Definition, diagnosis and classification of diabetes mellitus and its complications. Part 1: diagnosis and classification of diabetes mellitus. Provisional report of a WHO consultation. *Diabet. Med.* 1: 539–553.
- American Diabetes Association, 2010. Diagnosis and classification of diabetes mellitus. *Diabet. Care.* 33(1): S62–S69.
- Atiba, A., Nishimura, M., Kakinuma, S., Hiraoka, T., Goryo, M., Shimada, Y., *et al.*, 2011a. Aloe vera oral administration accelerates acute radiation-delayed wound healing by stimulating transforming growth factor- $\beta$  and fibroblast growth factor production. *Am. J. Surg.* 201: 809–818.
- Atiba, A., Ueno, H., Uzuka, Y., 2011b. The effect of aloe vera oral administration on cutaneous wound healing in type 2 diabetic rats. *J. Vet. Med. Sci.* 73(5): 583–589.
- Aumiller, W.D., Dollahite, H.A., 2015. Pathogenesis and management of diabetic foot ulcers. *J. Am. Acad. Physician Assist.* 28(5): 28–34.
- Bao, P., Kodra, A., Tomic-Canic, M., Golinko, M.S., Ehrlich, H.P., Brem, H., 2009. The role of vascular endothelial growth factor in wound healing. *J. Surg. Res.* 153(2): 347–358.
- Barrientos, S., Stojadinovic, O., Golinko, M.S., Brem, H., Tomic-Canic, M., 2008. Growth factors and cytokines in wound healing. *Wound Rep. Reg.* 16: 585–601.
- Bassetti, A., Sala, S., 2001. *The great aloe book; History, botany, composition, and pharmacological aspects of this legendary plant, 1st ed.* Zuccari Pty Ltd, Trento.
- Berthaut, A., Mirshahi, P., Benabbou, N., Azzazene, D., Bordu, C., Therwath, A., *et al.*, 2009. Vascular endothelial growth factor receptor-1 (VEGFR-1) expression in human corneal fibroblast decreased with age. *Mol. Vis.* 15: 1997–2007.
- Blakytyn, R., Jude, E., 2006. The molecular biology of chronic wounds and delayed healing in diabetes. *Diabet. Med.* 23: 594–608.

- Blakytyn, R., Jude, E.B., 2009. altered molecular mechanisms of diabetic foot ulcers. *Int. J. Low. Extrem. Wounds*. 8(2): 95–104.
- Boateng, J.S., Matthews, K.H., Stevens, H.N., Eccleston, G.M., 2008. Wound healing dressing and drug delivery systems a review. *J. Pharm. Sci.* 97(8): 2892–2923.
- Boudreau, M.D., Beland, F.A., 2006. An evaluation of the biological and toxicological properties of aloe barbadensis (Miller), aloe vera. *J. Environ. Sci. Health Part C*. 24: 103–154.
- Bowering, C.K., 2001. Diabetic foot ulcers. Pathophysiology, assessment, and therapy. *Can. Fam. Physician*. 47: 1007–1016.
- Brem, H., Tomic-Canic, M., 2007. Cellular and molecular basis of wound healing in diabetes. *J. Clin. Invest.* 117(5): 1219–1222.
- Chithra, P., Sajithlal, G.B., Chandrakasan, G., 1998. Influence of aloe vera on the healing of dermal wounds in diabetic rats. *J. Ethnopharmacol.* 59: 195–201.
- Choche, T., Shende, S., Kadu, P., 2014. Extraction and identification of bioactive components from aloe barbadensis Miller. *RRJPP*. 2(1): 14–23.
- Choi, S., Kim, K.-W., Choi, J.-S., Han, S.-T., Park, Y.-I., Lee, S.-K., *et al.*, 2002. Angiogenic activity of beta-sitosterol in the ischaemia/reperfusion-damaged brain of mongolian gerbil. *Planta Med.* 68: 330–335.
- Choi, S.-W., Son, B.-W., Son, Y.-S., Park, Y.-I., Lee, S.-K., Chung, M.-H., 2001. The wound-healing effect of a glycoprotein fraction isolated from aloe vera. *Br. J. Dermatol.* 145: 535–545.
- Cooper, G.M., Hausman, R.E., 2007. *The cell: a molecular approach, 4th ed.*, Washington, D.C: Sunderland, Mass.
- Curto, E.M., Labelle, A., Chandler, H.L., 2014. Aloe vera: an *in vitro* study of effects on corneal wound closure and collagenase activity. *Vet. Ophthalmol.* 17(6): 403–410.
- Daburkar, M., Lohar, V., Rathore, A., Bhutada, P., Tangadpaliwar, S., 2014. An in vivo and in vitro investigation of the effect of aloe vera gel ethanolic extract using model with diabetic foot ulcer. *J. Pharm. Bioallied Sci.* 6(3): 205–212.
- Dat, A.D., Poon, F., Pham, K.B., Doust, J., 2012. *Aloe vera for treating acute and chronic wounds*, in: The Cochrane Collaboration (Ed.), Cochrane Database of Systematic Reviews. John Wiley & Sons, Ltd, Chichester, UK.
- Davis, R.H., Donato, J.J., Hartman, G.M., Haas, R.C., 1994. Anti Inflammatory and wound healing activity of a growth substance in aloe vera. *J. Am. Podiatr. Med. Assoc.* 84(2): 77–82.

- Desta, T., Li, J., Chino, T., Graves, D.T., 2010. Altered fibroblast proliferation and apoptosis in diabetic gingival wounds. *J. Dent. Res.* 89(6): 609-614.
- Dickinson, P.J., Carrington, A.L., Frost, G.S., Boulton, A.J.M., 2002. Neurovascular disease, antioxidants and glycation in diabetes. *Diabet. Metab. Res. Rev.* 18: 260–272.
- Doyle, J.W., Roth, T.P., Smith, R.M., Li, Y.-Q., Dunn, R.M., 1996. Effect of calcium alginate on cellular wound healing processes modeled in vitro. *J. Biomed. Res.* 32: 561–568.
- Duansak, D., Somboonwong, J., Patumraj, S., 2003. Effects of aloe vera on leukocyte adhesion and TNF-alpha and IL-6 levels in burn wounded rats. *Clin. Hemorheol. Microcirc.* 29: 239–246.
- Dumville, J.C., O'Meara, S., Deshpande, S., Speak, K., 2013. *Hydrogel dressings for healing diabetic foot ulcers*, in: The Cochrane Collaboration (Ed.), Cochrane Database of Systematic Reviews. John Wiley & Sons, Ltd, Chichester, UK.
- East, L., Isacke, C.M., 2002. The mannose receptor family. *Biochim. Biophys. Acta BBA-Gen. Subj.* 1572: 364–386.
- Ferrara, N., 2001. Role of vascular endothelial growth factor in regulation of physiological angiogenesis. *Am. J. Physiol.-Cell Physiol.* 280: C1358–C1366.
- Ferrara, N., Gerber, H.-P., LeCouter, J., 2003. The biology of VEGF and its receptors. *Nat. Medicine.* 9(6): 669–676.
- Folkman, J., Shing, Y., 1992. Angiogenesis. *J. Biol. Chem.* 267(16): 10931–10934.
- Fong, G.-H., 2008. Mechanisms of adaptive angiogenesis to tissue hypoxia. *Angiogenesis.* 11, 121–140.
- Fraisl, P., Mazzone, M., Schmidt, T., Carmeliet, P., 2009. Regulation of angiogenesis by oxygen and metabolism. *Dev. Cell.* 16: 167–179.
- Franz, C.M., Jones, G.E., Ridley, A.J., 2002. Cell migration in development and disease. *Dev. Cell.* 2: 153–158.
- Freshney, R.I., 2010. *Culture of animal cells: a manual of basic technique and specialized applications*, 6th ed. Wiley-Blackwell, Hoboken, N.J.
- Galkowska, H., Wojewodzka, U., Olszewski, W.L., 2006. Chemokines, cytokines, and growth factors in keratinocytes and dermal endothelial cells in the margin of chronic diabetic foot ulcers. *Wound Repair Regen.* 14: 558–565.
- Gerber, H.-P., Dixit, V., Ferrara, N., 1998a. Vascular endothelial growth factor induces expression of the antiapoptotic proteins Bcl-2 and A1 in vascular endothelial cells. *J. Biol. Chem.* 273(21): 13313–13316.

- Gerber, H.-P., McMurtrey, A., Kowalski, J., Yan, M., Keyt, B.A., Dixit, V., *et al.*, 1998b. Vascular endothelial growth factor regulates endothelial cell survival through the phosphatidylinositol 3'-Kinase/Akt signal transduction pathway requirement for Flk-1/KDR activation. *J. Biol. Chem.* 273(46): 30336–30343.
- Gillitzer, R., Goebeler, M., 2001. Chemokine in cutaneous wound healing. *J. Leukoc. Biol.* 69: 513–521.
- Goldenberg, R., Punthakee, Z., 2013. Definition, classification and diagnosis of diabetes, prediabetes and metabolic syndrome. *Can. J. Diabetes.* 37: S8–S11.
- Gombotz, W.R., Wee, S.F., 1998. Protein release from alginate matrices. *Adv. Drug Deliv. Rev.* 31: 267–285.
- Gontijo, S.M., Gomes, A.D., Gala-García, A., Sinisterra, R.D., Cortés, M.E., 2013. Evaluation of antimicrobial activity and cell viability of Aloe vera sponges. *Electron. J. Biotechnol.* 16(1): 1-6.
- Gordillo, G.M., Sen, C.K., 2003. Revisiting the essential role of oxygen in wound healing. *Am. J. Surg.* 186: 259–263.
- Grazul-Bilska, A.T., Johnson, M.L., Bilski J.J., Abdullah, K.M., Abdullah, A., 2010. Effects of aloe vera on expression of fibroblast growth factor receptor 2 IIIc mRNA in human diabetic and non-diabetic skin fibroblasts. *J. Alt. Med. Res.* 2(2): 215-222.
- Hall, J.E., Guyton, A.C., 2011. *Guyton and Hall textbook of medical physiology, 12th ed.* Saunders/Elsevier, Philadelphia, Pa.
- Harding, K., Jones, V., Price, P., 2000. Topical treatment: which dressing to choose. *Diabetes Metab. Res. Rev.* 16(1): S47–S50.
- Hata, Y., Rook, S.L., Aiello, L.P., 1999. Basic fibroblast growth factor induces VEGF expression of VEGF receptor KDR through a protein kinase c and p44/p42 mitogen-activated protein kinase-dependent pathway. *Diabetes.* 48: 1145–1155.
- Hehenberger, K., Heilborn, J.D., Brismar, K., Hansson, A., 1998a. Inhibited proliferation of fibroblasts derived from chronic diabetic wounds and normal dermal fibroblasts treated with high glucose is associated with increased formation of L-lactate. *Wound Repair Regen.* 6(2): 135–141.
- Hehenberger, K., Kratz, G., Hansson, A., Brismar, K., 1998b. Fibroblasts derived from human chronic diabetic wounds have a decreased proliferation rate, which is recovered by the addition of heparin. *J. Dermatol. Sci.* 16: 144–151.
- Hickey, M.M., Simon, M.C., 2006. Regulation of angiogenesis by hypoxia and hypoxia-inducible factors, in: *Current topics in developmental biology.* Elsevier, pp. 76, 217–257.

- Hoeben, A., Landuyt, B., Highley, M.S., Oosterom, A.T.V., Bruijn, E.A.D., 2004. Vascular endothelial growth factor and angiogenesis. *Pharmacol. Rev.* 56, 549–580.
- Huang, C., 2004. MAP kinases and cell migration. *J. Cell Sci.* 117(20): 4619–4628.
- Huang, C., Rajfur, Z., Borchers, C., Schaller, M.D., Jacobson, K., 2003. JNK phosphorylates paxillin and regulates cell migration. *Nature.* 424: 219–223.
- Huang, Z., Yan, D.-P., Ge, B.-X., 2008. JNK regulates cell migration through promotion of tyrosine phosphorylation of paxillin. *Cell. Signal.* 20: 2002–2012.
- Hunt, N.C., Shelton, R.M., Henderson, D.J., Grover, L.M., 2013. Calcium-alginate hydrogel-encapsulated fibroblasts provide sustained release of vascular endothelial growth factor. *Tissue Eng. Part A.* 19(7): 905–914.
- Jeffcoate, W.J., Harding, K.G., 2003. Diabetic foot ulcers. *The Lancet.* 361: 1545–1551.
- Jenkins, A.B., Campbell, L.V., 2004. The genetics and pathophysiology of diabetes mellitus type II. *J. Inherit. Metab. Dis.* 27: 331–347.
- Jeon, S.-H., Chae, B.-C., Kim, H.-A., Seo, G.-Y., Seo, D.-W., Chun, G.-T., *et al.*, 2007. Mechanisms underlying TGF- $\beta$ 1-induced expression of VEGF and Flk-1 in mouse macrophages and their implications for angiogenesis. *J. Leukoc. Biol.* 81: 557–566.
- Jettanacheawchankit, S., Sasithanasate, S., Sangvanich, P., Banlunara, W., Thunyakitpisal, P., 2009. Acemannan stimulates gingival fibroblast proliferation; expressions of keratinocyte growth factor-1, vascular endothelial growth factor, and type I collagen; and wound healing. *J. Pharmacol. Sci.* 109: 525–531.
- Johansen, J.S., Harris, A.K., Rychly, D.J., Ergul, A., 2005. Oxidative stress and the use of antioxidants in diabetes: linking basic science to clinical practice. *Cardiovasc. Diabetol.* 4(5): 1-11.
- Johnson, K.E., Wilgus, T.A., 2014. Vascular endothelial growth factor and angiogenesis in the regulation of cutaneous wound repair. *Adv. Wound Care.* 3(10): 647–661.
- Jude, E.B., Blakytyn, R., Bulmer, J., Boulton, A.J.M., Ferguson, M.W.J., 2002. Transforming growth factor-beta 1, 2, 3 and receptor type I and II in diabetic foot ulcers. *Diabet. Med.* 19: 440–447.
- Kanazawa, S., Fujiwara, T., Matsuzaki, S., Shingaki, K., Taniguchi, M., Miyata, S., Tohyama, *et al.*, 2010. bFGF regulates PI3-kinase-Rac1-JNK pathway and promotes fibroblast migration in wound healing. *PLoS ONE.* 5(8), e12228: 1-12.

- Kemenkes, 2013. *Riset Kesehatan Dasar*. Balai Pen. Dan Peng. Kes. Kem. Kes. Rep. Indo., Jakarta.
- Kvanta, A., 1995. Expression and regulation of vascular endothelial growth factor in choroidal fibroblasts. *Curr. Eye Res.* 14: 1015–1020.
- Ladoux, A., Frelin, C., 1993. Expression of vascular endothelial growth factor by cultured endothelial cells from brain microvessels. *Biochem. Biophys. Res. Commun.* 194(2): 799–803.
- Lamers, M.L., Almeida, M.E.S., Vicente-Manzanares, M., Horwitz, A.F., Santos, M.F., 2011. High glucose-mediated oxidative stress impairs cell migration. *PLoS ONE*. 6(8), e22865:1-9.
- Lee, K.Y., Mooney, D.J., 2012. Alginate: Properties and biomedical applications. *Prog. Polym. Sci.* 37(1): 106–126.
- Lee, K.Y., Park, J.H., Chung, M.H., Park, Y.I., Kim, K.W., Lee, Y.J., *et al.*, 1997. Aloesin up-regulates cyclin E/CDK2 kinase activity via inducing the protein levels of cyclin E, CDK2, and CDC25A in SK-HEP-1 cells. *Biochem. and Mol. Bio. Int.* 41(2): 285–292.
- Lerman, O.Z., Galiano, R.D., Armour, M., Levine, J.P., Gurtner, G.C., 2003. Cellular dysfunction in the diabetic fibroblast: impairment in migration, vascular endothelial growth factor production, and response to hypoxia. *Am. J. Pathol.* 162(1): 303–312.
- Leung, P.C., 2007. Diabetic foot ulcers-a comprehensive review. *Surgeon.* 5(4): 219–231.
- Liang, C.-C., Park, A.Y., Guan, J.-L., 2007. In vitro scratch assay: a convenient and inexpensive method for analysis of cell migration in vitro. *Nat. Protoc.* 2(2): 329–333.
- Liang, Y., Niederstrasser, H., Edwards, M., Jackson, C.E., Cooper, J.A., 2009. Distinct roles for CARMIL isoforms in cell migration. *Mol. Biol. Cell.* 20: 5290–5305.
- Lien, Y.-H., Tseng, M.M., Stern, R., 1992. Glucose and glucose analogs modulate collagen metabolism. *Exp. Mol. Pathol.* 57: 215–221.
- Liu, Z., Lei, M., Jiang, Y., Hao, H., Chu, L., Xu, J., *et al.*, 2009. High glucose attenuates VEGF expression in rat multipotent adult progenitor cells in association with inhibition of JAK2/STAT3 signalling. *J. Cell. Mol. Med.* 13(9B): 3427–3436.
- Lobmann, R., Ambrosch, A., Schultz, G., Waldmann, K., Schiweck, S., Lehnert, H., 2002. Expression of matrix-metalloproteinases and their inhibitors in the wounds of diabetic and non-diabetic patients. *Diabetologia.* 45: 1011–1016.
- Maquart, F.X., Monboisse, J.C., 2014. Extracellular matrix and wound healing. *Pathol. Biol.* 62: 91–95.



- Moniruzzaman, M., Rokeya, B., Ahmed, S., Bhowmik, A., Khalil, M., Gan, S., 2012. In vitro antioxidant effects of aloe barbadensis miller extracts and the potential role of these extracts as antidiabetic and antilipidemic agents on streptozotocin-induced type 2 diabetic model rats. *Molecules* 17: 12851–12867.
- Moon, E.-J., Lee, Y.M., Lee, O.-H., Lee, M.-J., Lee, S.-K., Chung, M.-H., *et al.*, 1999. A novel angiogenic factor derived from Aloe vera gel:  $\beta$ -sitosterol, a plant sterol. *Angiogenesis*. 3: 117–123.
- Morin, R.J., Tomaselli, N.L., 2007. Interactive dressings and topical agents. *Clin. Plast. Surg.* 34: 643–658.
- Nejatzadeh-Barandozi, F., 2013. Antibacterial activities and antioxidant capacity of Aloe vera. *Org. Med. Chem. Lett.* 3(5): 1-8.
- Neufeld, G., Cohen, T., Gengrinovitch, S., Poltorak, Z., 1999. Vascular endothelial growth factor (VEGF) and its receptors. *FASEB J.* 13: 9–22.
- Node, K., Inoue, T., 2009. Postprandial hyperglycemia as an etiological factor in vascular failure. *Cardiovasc. Diabetol.* 8(23): 1-10.
- Noor, S., Zubair, M., Ahmad, J., 2015. Diabetic foot ulcer-a review on pathophysiology, classification and microbial etiology. *Diabetes Metab. Syndr. Clin. Res. Rev.* 9: 192–199.
- Ozougwu, O., 2013. The pathogenesis and pathophysiology of type 1 and type 2 diabetes mellitus. *J. Physiol. Pathophysiol.* 4(4): 46–57.
- Ozsoy, N., Candoken, E., Akev, N., 2009. Implications for degenerative disorders: Antioxidative activity, total phenols, flavonoids, ascorbic acid,  $\beta$ -carotene and  $\alpha$ -tocopherol in Aloe vera. *Oxid. Med. Cell. Longev.* 2(2): 99–106.
- Paddle-Ledinek, J.E., Nasa, Z., Cleland, H.J., 2006. Effect of different wound dressings on cell viability and proliferation: *Plast. Reconstr. Surg.* 117(7S): 110S–118S.
- Rajasekaran, S., Sivagnanam, K., Subramanian, S., 2005. Antioxidant effect of Aloe vera gel extract in streptozotocin-induced diabetes in rats. *Pharmacol Rep.* 57: 90–96.
- Rajeswari, R., Umadevi, M., Rahale, C.S., Pushpa, R., Selvavenkadesh, S., Kumar, K.S., *et al.*, 2012. Aloe vera: the miracle plant its medicinal and traditional uses in India. *J. Pharmacogn. Phytochem.* 1(4): 118–124.
- Ravikanth, M., Soujanya, P., Manjunath, K., Saraswathi, T., Ramachandran, C., 2011. Heterogeneity of fibroblast. *J Oral Maxillofac Pathol.* 15(2): 247–250.
- Rittié, L., Fisher, G.J., 2005. *Isolation and culture of skin fibroblasts, in: Method in Molecular Medicine. Fibrosis Research: Method and Protocols.* Springer, pp. 117: 83–98.

- Schäfer, M., Werner, S., 2008. Cancer as an overhealing wound: an old hypothesis revisited. *Nat. Rev. Mol. Cell Biol.* 9: 628–638.
- Seluanov, A., Vaidya, A., Gorbunova, V., 2010. Establishing Primary Adult Fibroblast Cultures From Rodents. *JOVE*. 44: 1-4.
- Shaw, J.E., Sicree, R.A., Zimmet, P.Z., 2010. Global estimates of the prevalence of diabetes for 2010 and 2030. *Diabet. Res. Clin. Pract.* 87: 4–14.
- Szkudelski, T., 2012. Streptozotocin-nicotinamide-induced diabetes in the rat. Characteristics of the experimental model. *Exp. Biol. Med.* 237: 481–490.
- Takehara, K., 2000. Growth regulation of skin fibroblasts. *J. Dermatol. Sci.* 24(1): S70–S77.
- Takzare, N., Hosseini, M., Hasanzadeh, G., Mortazavi, H., Takzare, A., Habibi, P., 2009. Influence of Aloe Vera Gel on Dermal Wound Healing Process in Rat. *Toxicol. Mech. Methods*. 19: 73–77.
- Tanaka, M., Misawa, E., Yamauchi, K., Abe, F., Ishizaki, C., 2015. Effects of plant sterols derived from Aloe vera gel on human dermal fibroblasts in vitro and on skin condition in Japanese women. *Clin. Cosmet. Investig. Dermatol.* 8: 95-104.
- Teixeira, A.S., Andrade, S.P., 1999. Glucose-induced inhibition of angiogenesis in the rat sponge granuloma is prevented by aminoguanidine. *Life Sci.* 64(8): 655–662.
- Tonnesen, M.G., Feng, X., Clark, R.A., 2000. Angiogenesis in wound healing, in: Journal of Investigative Dermatology Symposium Proceedings. *Nature Pub. Group*, pp. 5(1): 40–46.
- Tsourdi, E., Barthel, A., Rietzsch, H., Reichel, A., Bornstein, S.R., 2013. Current Aspects in the Pathophysiology and Treatment of Chronic Wounds in Diabetes Mellitus. *BioMed Res. Int.* 2013: 1–6.
- Tsunawaki, S., Sporn, M., Ding, A., Nathan, C., 1988. Deactivation of macrophages by transforming growth factor-beta. *Nature*. 334: 260–262.
- Velnar, T., Bailey, T., Smrkolj, V., 2009. The wound healing process: an overview of the cellular and molecular mechanisms. *J. Int. Med. Res.* 37: 1528–1542.
- Wang, T., Gu, Q., Zhao, J., Mei, J., Shao, M., Pan, Y., *et al.*, 2015. Calcium alginate enhances wound healing by up-regulating the ratio of collagen types I/III in diabetic rats. *Int. J. Clin. Exp. Pathol.* 8(6): 6636-6645.
- Welf, E.S., Haugh, J.M., 2011. Signaling pathways that control cell migration: models and analysis. *Wiley Interdiscip. Rev. Syst. Biol. Med.* 3(2): 231–240.
- Werner, S., Krieg, T., Smola, H., 2007. Keratinocyte–fibroblast interactions in wound healing. *J. Invest. Dermatol.* 127: 998–1008.



- Xing, W., Guo, W., Zou, C.-H., Fu, Ti.-T., Li, X.-Y., *et al.*, 2015. Accemannan accelerates cell proliferation and skin wound healing through AKT/mTOR signaling pathway. *J. Dermatol. Sci.* 79: 101-109.
- Xuan, Y.H., Huang, B.B., Tian, H.S., Chi, L.S., Duan, Y.M., Wang, X., *et al.*, 2014. High-Glucose Inhibits Human Fibroblast Cell Migration in Wound Healing via Repression of bFGF-Regulating JNK Phosphorylation. *PLoS ONE*. 9(9), e108182:1-14.
- Yagi, A., Egusa, T., Arase, M., Tanabe, M., Tsuji, H., 1997. Isolation and characterization of the glycoprotein fraction with a proliferation-promoting activity on human and hamster cells in vitro from Aloe vera gel. *Planta Med.* 63: 18–21.
- Yao, H., Chen, Y., Li, S., Huang, L., Chen, W., Lin, X., 2009. Promotion proliferation effect of a polysaccharide from aloe barbadensis Miller on human fibroblasts in vitro. *Int. J. Biol. Macromol.* 45: 152–156.
- Young, A., McNaught, C.-E., 2011. The physiology of wound healing. *Surg. Oxf.* 29(10): 475–479.
- Zimmet, P., Alberti, K.G.M.M., Shaw, J., 2001. Global and societal implications of the diabetes epidemic. *Nature*. 414: 782–787.