

A Review on Analytical Method Development and Validation of Omeprazole by UV Spectroscopy Method

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Abstract: The analysis of omeprazole in the capsule has been developed using two straightforward spectrophotometric techniques. The discovery, development, and production of pharmaceuticals depend on the development and validation of analytical methods. Ethanol was used as a solvent in the method's development. The solvent in this procedure is sodium hydroxide, 0.1 N. The under curve area method was used at wavelengths between 281.60 nm and 333.60 nm, whereas the absorbance method was used at 304.80 nm. At a concentration range of 10 g/mL to 18 g/mL, both methods were found to be linear. The UV method is based on a multi-component analysis methodology and absorption correction. The technique was approved in accordance with ICH recommendations.

Keywords: Omeprazole, UV spectroscopy, Multi Component, Ethanol

REFERENCES

- [1]. RamoleRina, MohiniBaile, Ashish Jain; A Reviewon Analytical Method Development and Validation; Sys Rev Pharm 2021;12(8): 450-454.
- [2]. Shivani Sharma, SwapnilGoyal, KalindiChauhan; A Review On Analytical Method Development and Validation; International Journal of Applied Pharmaceutics ISSN- 0975-7058 Vol 10, Issue 6, 2018 08-15.
- [3]. GovindaVerma and Dr Manish Mishra A Review article on Development And Optimization Of UV-Vis Spectroscopy World Journal of Pharmaceutical Research Volume 7, Issue 11, 1170-1180.
- [4]. Gokul S. Sanap, Nilesh S. Zarekar, Sarita S. Pawar Review On Method Development And Validation International Journal Of Pharmaceutics & Drug Analysis; Vol.5; Issue 5, 2017; 177 – 184
- [5]. Rami Reddy YV, Krishnaiah V (2012) Development and validation of HPLC method for simultaneous determination of Omeprazole and Domperidone. Scholars Research Library Der PharmaChemica 4(1):455-459.
- [6]. Patta S, Afreen S, Tappa S, Nagarajan G, GnanaPrakash K. Simultaneous estimation of aspirin and omeprazole (Yosprala) in bulk by UV-spectroscopy. J Drug DelivTher. 2017;7:87-91
- [7]. Indian Pharmacopoeia (2014) The Indian Pharmacopoeia Commission, Ghaziabad, India. Voilume-II: 2372(OMP) & 1612(DOM).
- [8]. U.S. Pharmacopoeia National Formulary (2014) The Unites States Pharmacopoeial Convention, Rockville, MD, USA Volume III: 4063 (OMP).
- [9]. Gupta KK, Sase D, Faulds (2012) Drug review on Domperidone. Asian Journal of pharmaceutical sciences 1(11): 366-369.
- [10]. Patta S, Afreen S, Tappa S, Nagarajan G, GnanaPrakash K. Simultaneous estimation of aspirin and omeprazole (Yosprala) in bulk by UV-spectroscopy. J Drug DelivTher. 2017;7:87-91.
- [11]. SureshKumar S, Jamadar LD, Bhat K, Musmade PB, Vasantharaju SG, Udupa N. Analytical method development and validation for Aspirin. Int J Chem Tech Res. 2010; 2:389-399.
- [12]. SudhakarRao GV, Sujana K, Pedababu T (2014) Development and validation of UV spectrophotometric method for the estimation of Omeprazole in bulk and pharmaceutical formulations. International Journal of Pharmacy 2(1): 247-251.



- [13]. Asra, R., Rivai, H., & Riani, V. L. (2016). Pengembangan dan Validasi Metode Analisis Tablet Furosemid dengan Metode Absorbansi dan Luas Daerah di Bawah Kurva secara Spektrofotometri Ultraviolet. Jurnal Farmasi Higea, 8(2), 110-121.
- [14]. Bhandage, A., Bhosale, A., Kasture, A., & Godse, V. P. (2009). Extractive spectrophotometric determination of omeprazole in pharmaceutical preparations. Tropical Journal of Pharmaceutical Research, 8(5), 449-454.
- [15]. Bhuva, S. D., & Patel, M. M. (2012). Spectrophotometric simultaneous estimation of omeprazole and cinitapride in bulk and formulation. Asian Journal of Pharmaceutical and Clinical Research, 5(4), 40-42.
- [16]. Chandra, B., Rivai, H., & Apriansyah, E. (2017). Pengembangan dan Validasi Metode Analisis PropranololHidroklorida Tablet dengan Metode Absorbansi dan Luas Daerah di Bawah Kurva secara Spektrofotometri Ultraviolet. Jurnal Farmasi Higea, 9(1), 20-29.
- [17]. Chandra, B., Rivai, H., & Marianis, M. (2016). Pengembangan dan Validasi Metode Analisis Ranitidin Hidroklorida Tablet dengan Metode Absorbansi dan Luas Daerah di Bawah Kurva secara Spektrofotometri Ultraviolet. Jurnal Farmasi Higea, 8(2), 96-109.
- [18]. Radde, I. C. & Macleod, S. M. (1999). Farmakologi dan terapi pediatri. Penerjemah: dr. Joko Soyono. Jakarta: Hippocrates