

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : G01N 31/22, 33/53, 33/543, 33/544, 33/545, 33/551, C12Q 1/00, 1/68, 1/70		A1	(11) International Publication Number: WO 96/01997
			(43) International Publication Date: 25 January 1996 (25.01.96)
(21) International Application Number: PCT/US95/08317		(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ, UG).	
(22) International Filing Date: 28 June 1995 (28.06.95)		Published With international search report. 9700157-2	
(30) Priority Data: 08/272,202 / 8 July 1994 (08.07.94) / US			
(71) Applicant: MICROPROBE CORPORATION [US/US]; Suite 104, 1725 220th Southeast, Bothell, WA 98021 (US).			
(72) Inventors: HARRIS, Paul, C.; 8717 191th Place Southwest, Edmonds, WA 98026 (US). UREN, Jack, R.; 12938 111th Place Northeast, Kirkland, WA 98034 (US).			
(74) Agents: WEBER, Kenneth, A. et al.; Townsend and Townsend and Crew, Stuart Street Tower, One Market Plaza, San Francisco, CA 94105-1492 (US).			

(54) Title: ANALYTICAL DIPSTICK FOR IMPROVED MIXING AND REDUCED REAGENT VOLUME

(57) Abstract

The analytical dipstick (2) of the present invention facilitates analyte testing with reduced liquid reagent volumes and provides improved mixing. The dipstick (2) includes an elongated member (4) having a fluid displacing member (18) at one end thereof and ligand (20) attached to a portion of the elongated member (4) in a region adjacent to the displacing member (18). The displacing member (18) has a configuration that substantially conforms with the inner side wall (26) of an analytical well (3) in which the dipstick (2) is placed to displace fluid therein. When the displacing member (18) is substantially centered at the bottom (30) of the well (3), the portion of the dipstick (2) supporting the ligand (20) preferably is spaced from the inner side wall (26) by a distance (d2) of at least about twice the distance (d1) between the displacing member (18) and the inner side wall (26), measured along a line (4)---(4) passing through the greatest lateral dimension of the displacing member (18). With this configuration, essentially all of the liquid at the bottom (30) of the well (3) is displaced upwardly so that the ligand (20) is immersed therein. The relatively large space (d2) between the ligand (20) portion and the side wall (26) of the well (3) facilitates turbulent flow to enhance mixing in the region of the ligand (20).

