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LACK OF CROSS REACTIVITY OF RHABDOVIRUS ANITBODIES WITH MARBURG AND EBOLA ANTIGENS IN THE INDIRECT IMMUNOFLUORESCENT ANTIBODY TEST

by

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Ebola and Marburg virus are distinct from all other animal viruses, known and are probably members of a new taxonomic group, which needs further characterisation. However, some morphological and protein composition aspects of these viruses closely resemble the Rhabdoviridae (Kiley *et al.*, 1980). To differentiate further EBO and MBG from the Rhabdoviridae family, we tested in which degree these viruses were able to react with antisera against Rhabdoviruses. Indirect immunofluorescent antibody (IFA) test was performed as described by Johnson *et al.* (1981) on ultraviolet and gamma-irradiated inactivated EBO CDC lot No 802850 (Ebola virus) and MBG CDC lot No 802682 (Marburg virus) slides. Positive reference sera were obtained from humans convalescing from the respective viral diseases. Human anti-EBO CDC lot No 096029 and human anti-MBG CDC lot No 700808 sera were used. Negative sera controls were included.

The conjugates used were : rabbit anti-mouse IgG (Fc + Fab) FITC conjugate (Nordic, lot No 111177) 1 : 40 in phosphate buffered saline (PBS), with Evans blue counterstain 0.2 per cent (v/v) and sheep, anti-human IgG FITC conjugate (Wellcome K8855) 1 : 80 in PBS with Evans blue counterstain final concentration 0.2 per cent (v/v).

The homologous titers obtained with the positive reference sera were 1 : 512 à 1 : 1024 for human anti-EBO and 1 : 128 for human anti-MBG serum. No fluorescence could be observed at 1 : 16 dilution on EBO and MBG slides with the anti-Rhabdovirus mouse ascitic fluids mentioned in table 1. These findings strengthen the concept that EBO and MBG viruses are not related to the Rhabdoviridae family.

These results should be confirmed by the recently developed plaque-reduction neutralisation assay for Ebola (Lupton, personal communication).

TABLE 1

List of anti-rhabdovirus mouse ascitic fluids which showed no reaction at 1 : 16 dilution in the indirect immunofluorescent antibody test performed on Ebola and Marburg slides

Obolhiang Ug Ar 1275 3/31/70 MIAF F/D
Mosqueiro BeAr185559 Mouse Ascitic Fluid 97371 4 inj 9/22-27/77
La Joya J-134 MIAF 3/1 /3/ 3/8/-67
Piry mouse Ascitic Fluid 12/8/70
Chandipura 653514 12/15/1965
New Minto MIAF 9/10/79
Gray Lodge MIAF 97448 2/14/78
Sawgrass MIAF V070980/9 28996 2/19/81
PorS1634AF CLF-1977 # 4
Rabies MIAF 1820B 12/20/73
Labos bat MIAF 11/24/75
Duvenhage mouse immune ascitic fluid 10/12-11/10/80
Mokola MIAF IbH29777 12/8/69
Navarro Cali 874 MIAF R13703 4 inj. 7/69
Kotonkan AsF UbAr23380 7/7-24/78
Group VSV AsF R 4262 8/21/67
Grouping fluid 7 HP-FLA-KC-KLA-MEB CF 128-256 6/71
Australia Group F1 # 08174-6 im. Afl. Pool lyoph. 7-29-76
Barur Mouse IAF 1635 4/22/70
Kwatta Mouse AsF 1/17/78
Joinjakaka MK7937 Mouse AsF 12/10/70
Polyvalent Bwamba-Nyando-Mossuril AsF R19023 pool Apr-May 1971
Polyvalent 6 MIAF Timbo, Chaco, Marco Pacui. 7/26/71
Connecticut Virus (Ar 1152-78) 24121 MAF 8/5/79

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