

EXHIBIT G

MELAMEDE DECLARATION

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14 Attorneys for Defendants
15 OAKLAND CANNABIS BUYERS' COOPERATIVE and
JEFFREY JONES
16

17 IN THE UNITED STATES DISTRICT COURT
18 FOR THE NORTHERN DISTRICT OF CALIFORNIA
19 SAN FRANCISCO DIVISION

20 UNITED STATES OF AMERICA,
21
22 Plaintiff,
23
24 v.
25 OAKLAND CANNABIS BUYERS'
COOPERATIVE and JEFFREY JONES,
26 Defendants.

27 AND RELATED ACTIONS.

No. C 98-0088 CRB

**DECLARATION OF
ROBERT MELAMEDE**

Date: March 22, 2002
Time: 10:00 a.m.
Honorable Charles R. Breyer

1 I, ROBERT J. MELAMEDE, declare:

2 1. I am Chairman of the Biology Department at the University of Colorado at
3 Colorado Springs. If called as a witness, I could and would testify competently to the facts set
4 forth below. Attached is a copy of my *Curriculum Vitae*. Among other things, I teach seminars
5 on medical cannabis. I also teach classes in microbiology, bacteriology, cell biology, and
6 immunology.

7 2. My background has centered around researching and teaching the biological
8 consequences of free radicals, especially as pertaining to the repair systems that correct DNA
9 damages caused by these agents.

10 3. I received my B.A. degree in 1969 and my M.S. degree in 1972 from Herbert H.
11 Lehman College. I received my Pd.D. in molecular biochemistry in 1980 from City University of
12 New York.

13 4. I held positions as a Lecturer at Bronx Community College (1970) and at
14 Lehman College (1970-1975). I held positions as Assistant Professor at New York Medical
15 College (1985-1988) and at the University of Vermont (1988-2001). I also served as Director of
16 the LCCRO Monoclonal Facility (1993-2001).

17 5. I have had many works published in respected peer reviewed journals. My
18 publications include an article on the effects of cannabis on autoimmune diseases, studies on the
19 effects of ionizing radiation, on DNA repair enzymes (one of which I discovered), and on
20 molecular immunology.

21 6. In my current research I am continuing to work with free radicals but have
22 expanded my work to include how cannabinoids seem to inhibit the biological consequences of
23 free radicals.

24 7. The cannabinoid system first evolved in the biosphere early, and that is why
25 cannabinoids help maintain so many systems of homeostasis, i.e., biological balance. The
26 cannabinoid system has been found in primitive invertebrates as far back as hydra and worms.

1 The success of the cannabinoid system is evidenced by its reuse in new roles as life evolved to
2 new levels of complexity. The internally produced cannabinoids help maintain the relatively
3 stable state of equilibrium between interrelated elements of our immune, nervous, digestive,
4 endocrine, reproductive, and excretory systems. We are all producing cannabinoids in our
5 bodies, in fact, they play a major role in controlling our lives. For example, mother's milk in the
6 first few days after birth is high in cannabinoids. Cannabinoids stimulate hunger, and inhibit the
7 proinflammatory systems and the free radical mechanisms of the immune system. Cannabinoids
8 are important in the aging process, and with AIDS. Cannabinoids also help with epilepsy, stroke,
9 blood pressure, multiple sclerosis, pain, and many other conditions. Cannabinoids are
10 neuroprotective, in other words, they help prevent the death of nerve cells. Cannabis kills some
11 cancer cells. Research in the early 1970s proved that the cannabinoids THC and CBN retarded
12 tumor growth in lung carcinoma, reduced tumor size, and significantly inhibited leukemia.

13 8. It is my belief that the federal government has a history of hiding research
14 regarding the beneficial effects of cannabis, suppressing studies into potential beneficial effects
15 of cannabis, and directing research only *against* the beneficial effects of cannabis.

16 9. For example, I am familiar with a cancer study indicating that rats and mice given
17 cannabis had fewer tumors and lived longer, but for political reasons the study was sequestered
18 until recently when it was finally released to an AIDS group after much effort. As another
19 example, the DEA's web site (<http://www.usdoj.gov:80/dea/pubs/sayit/myths.htm>) claims,
20 "There are over 10,000 scientific studies that prove marijuana is a harmful addictive drug. There
21 is not one reliable study that demonstrates marijuana has any medical value." That statement is
22 an outright falsehood, as are numerous other allegations appearing in that web site.

23 10. As further examples, the following paucity of clinical studies (i.e., research using
24 humans) are illustrative: a) One percent of Americans have epilepsy, and for 30% of those
25 patients conventional medications are ineffective. Cannabis has been used as a natural remedy
26 for seizures for 2,000 years. In 1974 Karler showed the cannabinoid THC prevented seizures.

1 But there are no clinical studies concerning the effects of THC on epilepsy. b) Glioma (a form
2 of brain tumor) is usually a short term death sentence. THC kills human glioma in animal
3 models. But there are no clinical trials. c) Many studies show THC has painkilling properties.
4 Clinical studies are underway elsewhere, but not in the United States. d) THC helps with
5 multiple sclerosis in animal models. Clinical studies are underway elsewhere, but not in the
6 United States.

7 11. The cannabis research the United States government has allowed has almost all
8 focused at the cellular level and the molecular level, but *not* on human studies. The only
9 exceptions are two studies about to begin at the University of California at San Diego (funded as
10 the result of an act passed by the California Legislature), one ongoing study by San Mateo
11 County, and a completed study by Dr. Donald Abrams at the University of California at San
12 Francisco.

13 12. I am aware that the San Mateo County study is having trouble retaining
14 participants due to the poor quality of the government-supplied cannabis. To do cannabis
15 research in the United States, a researcher must use only cannabis provided by the United States
16 government -- a requirement not present for research into any other drug. (I note that the
17 Canadian government is growing a medical crop that has a significantly higher level of quality --
18 again, evidence of unscientific bias by the United States government.)

19 13. I am aware that the researchers at the University of California at San Francisco
20 spent years trying to get access to the federal government's cannabis. In the process, they had to
21 go through various modifications to their research designs until they ultimately conducted a
22 modest safety study rather than an efficacy study. The study did produce some positive efficacy
23 results, but those results were merely incidental to the safety demonstrated. Dr. Abrams had to
24 jump through more hoops than the director of any comparable study would have to undergo. In
25 my opinion, this illustrates an attempt to inhibit cannabis research that might have a constructive
26 outcome for sick people, because it would contradict the government's rigid position that
27

1 cannabis has no medical use.

2 14. I am aware that Professor Ethan Russo, at the University of Montana, and Editor
3 of the *Journal of Cannabis Therapeutics*, was similarly denied access to the federal
4 government's cannabis because his proposed study was designed to demonstrate a beneficial use
5 for cannabis in the treatment of migraine.

6 15. In 1992, the federal government closed the Compassionate IND program to new
7 applicants, so no additional patients could have legal access to cannabis that would benefit them.
8 In my opinion, this was a political decision, not a scientific decision. The federal government
9 has conducted no research into the participants in its Compassionate IND program.

10 16. The federal government is forcing cannabis research away from the natural plant
11 and into synthetic cannabinoids. In my opinion, the reason is so that, as a result of the research,
12 no one will say, "We need to legalize natural marijuana." Even among synthetics, the
13 government is steering researchers such as myself away from THC (which is found in natural
14 cannabis) to other synthetic cannabinoids, which can be many times more powerful. To get
15 THC, a researcher needs DEA approval, but a researcher can simply buy most other synthetic
16 cannabinoids with no governmental interference. In contrast, it is virtually impossible for a
17 researcher to get whole plant material legally. In my opinion, the government's propaganda
18 interest, not science, is the motivating factor behind the policies creating such arbitrary
19 differences in the ease by which researchers may do certain kinds of research.

20 17. Every nonbiased scientific study on the subject (including but not limited to the
21 Indian Hemp Drugs Commission in the 1890s, the LaGuardia Commission in the 1940s, the
22 Shafer Commission in the Nixon administration, the National Academy of Sciences in the Carter
23 administration, and the Institute of Medicine in the Clinton administration) has recommended

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28 Declaration of Robert Melamede
Case No. 98-00088 CRB

FROM : Robert A. Raich

PHONE NO. : 510 338 0600

Mar. 07 2002 11:22AM P7

1 giving certain patients access to cannabis. Some studies recommended outright:
2 decriminalization.

3 I declare under penalty of perjury under the laws of the State of California that the
4 foregoing is true and correct.

5 Executed this 7th day of March, 2002, at Colorado Springs, Colorado.

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8 Robert J. Melamede

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28 Declaration of Robert Melamede
Case No. 98-00088 CRB

CURRICULUM VITAE

CURRICULUM VITAE

ROBERT JEAN MELAMEDE

Work:

Chairman, Biology Department
Room 232
University of Colorado
1420 Austin Bluffs Parkway
PO Box 7150
Colorado Springs, CO 80933-7150

719 262-3135
rmelamed@uccs.edu

EDUCATION

Herbert H. Lehman College, NYC	B.A.	1969	Anat/Phys.
Herbert H. Lehman College, NYC	M.S.	1972	Molec/Biochem.
City University of New York, NYC	Ph.D	1980	Molec/Biochem

PROFESSIONAL EXPERIENCE

Chairman Biology Department	University of Colorado CS	9/01-present
Director	LCCRO Monoclonal Facility	1/93-2001
Assistant Professor	Univ. of Vermont	8/88-2001
Assistant Professor	N.Y. Medical College	1985-8/88
Research Associate	N.Y. Medical College	1978-1981
Graduate Fellow	Lehman College	1975-1978
Adjunct Lecturer	Lehman College	1970-1975
Part-time Lecturer	Bronx Comm. College	1970

SABBATICAL

Scripps Institute Dept. of Immunology 10/92-12/92
in vitro antibody technology (Richard Lerner and Dennis Burton)

ADMINISTRATIVE EXPERIENCE

Chairman Graduate School Curriculum Committee	NYMC
Member Graduate School Computer Literacy Committee	NYMC
Chair Department of MMG Equipment Committee	UVM
Member Computer Committee	UVM
Presidents Council on Biotechnology	UVM

Strategic Planning Committee Vermont Cancer Center UVM
Member Cancer Center DNA Sequencing Facility Oversight Committee UVM

PATENTS

Automatable Process For Sequencing Nucleotides, Robert Melamede. (1989)
USA Patent #4,863,849 (sold \$100,000 1998)

Fluorometric Quantitation of Broth Cultured Mycoplasmas Using Alkaline Ethidium Bromide, Warren Schaeffer and Robert Melamede (1997) 5,604,096

X-irradiation induced induction of CD40 Robert Melamede and Karen Newell (submitted 1998).

REVIEWER GRANTS/MANUSCRIPTS

1. National Science Foundation
2. Connecticut Innovations Inc
3. International Radiation Research Society

PROFESSIONAL ORGANIZATIONS

AAAS
Sigma Xi
ICRS
Vermont Cancer Center

GRANTS

PRINCIPAL INVESTIGATOR

Automated Process for Sequencing Nucleotides and Site-specific Mutagenesis,
Whitehead Associates: Venture Capital Support \$90,000 11/84-86

Development Grant to establish *in vitro* antibody technology at UVM.
Vermont Cancer Center \$75,000 12/92-12/93
\$45,000 1/94-12-94

Development Grant A Novel Method for Determining Antigens that bind T-cells.
Immune Response Corporation \$30,000 1/94-12/94

CO-PRINCIPAL INVESTIGATOR

An Immunological Approach to Study DNA Damage and Repair

DOE \$780,000 3/1/97-11/30/98

Repair of DNA Damage Induced by Ionizing Radiation

NIH: \$764,694 (Direct Cost) 4/82-3/95

Research-based Computer-assisted Undergraduate Molecular Biology Labs.

NSF: \$90,447 1/93-1/95

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2. Melamede, R.J. and Wallace, S.S. (1977). Studies on the non-lethal recombinational repair deficient x and y mutants of bacteriophage T4. II DNA synthesis. *J. Virol.* 24:28.
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6. Melamede, R.J. and Wallace, S.S. (1983). Incorporation of thymine-containing DNA precursors in wild-type and mutant T4-infected plasmolysed cells. *Molec. Gen. Genet.* 191:382.
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13. Melamede, R.J., Zafer Hatahet, Kow, Y.W., Ide, H. and Wallace, S.S. (1994). Isolation and Characterization of Endonuclease VIII from *Escherichia Coli* *Biochemistry* 33:1255.
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CHAPTERS AND NON-REFERREED ARTICLES

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characterization of endonuclease VIII from Escherichia coli, In: "Anticarcinogenesis and Radiation Protection", (F. Nygaard, Simic and P. Cerutti, eds.), Plenum Press, NY.

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ABSTRACTS

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25. Melamede, R.J., Purmal, A.A., Chen, B.-X., Connelly, G., Kow, Y.W., Erlanger, B., and Wallace, S.S. (1993). *E. coli* monoclonal antibodies to oxidative DNA damages. The New York Academy of Sciences, DNA Damage: Effects on DNA Structure and Protein Recognition, Burlington, Vermont, p11.
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DNA Repair Genes:Diagnostic and Therapeutic Targents Journal of Cellular Biochemistry supplement 19C .

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32. Ivan A. Bepalov, Andrei A. Purmal, Susan S. Wallace, and Robert J. Melamede*Engineering antibodies that bind thymine glycol in DNA, (2001) In The Twelfth Annual International Conference on Antibody Engineering. International Business Communications

Manuscripts in Preparation

Mary-Ellen Harper, Jami Kupperman, Andreas Antoniou, Ye Liu, Amanda George, Mark Weidner, Jeffrey Rogers, Raymond Birge, Jack Leahy, Ivan Bepalov, Jean Himms-Hagen, Susan Wallace, Robert Melamede, and M. Karen Newell. Newly Discovered Mechanism for Resistance to Multiple Cytotoxic Therapies. Manuscript in revision
Ivan A. Bepalov, Robert J. Melamede, Andrei A. Purmal and Susan S. Wallace (2001), Engineering antibodies that bind thymine glycol in DNA.

Invited Presentations

1985-1986 Beckman, Cetus, Dupont, LKB Pharmacia, Whitehead Institute	
1993 Immune Response Corporation	
1995 Wellness Council of Upper Peninsula	1995 Jefferson Cancer Center
1996 IDEXX Laboratories Inc.	1996 Alteon
1997 Morphosys (Germany)	1997 Pyrosequencing (Sweden)
1998 Pentose Pharmaceuticals	2000 University of Texas at Tylor
2001 Sigma Psi, University of Colorado	

Community Service

Testified before the Vermont legislature for Medical Cannabis, 1999

Testified before the New Hampshire legislature for Medical Cannabis, 1999