

**Full title: The identification of upregulated ebv-mir-BHRF1-2-5p targeting MALT1 and ebv-miR-BHRF1-3 in the circulation of patients with multiple sclerosis**

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<b>ebv-miR</b>	<b>Mature miRNA Sequence</b>	<b>Catalog number</b>	<b>Product number</b>
BHRF1-1	UAACCUGAUCAGCCCCGGAGUU	Cat. #4427975	007757
BHRF1-2-3p	AAAUUCUGUUGCAGCAGAUAGC	Cat. #4427975	197239_mat
BHRF1-2-5p	AAAUUCUGUUGCAGCAGAUAGC	Cat. #4427975	006088
BHRF 1-3	UAACGGGAAGUGUGUAAGCACA	Cat. #4427975	197221_mat
BART 3-5p	ACCUAGUGUUAGUGUUGUGCU	Cat. #4427975	004432_mat
BART 3-3p	CGCACCACUAGUCACCAGGUGU	Cat. #4427975	004578_mat
BART 4-5p	GACCUGAUGCUGCUGGUGUGCU	Cat. #4427975	005623
BART 4-3p	CACAUACGUAGGCACCAGGUGU	Cat. #4427975	007411
BART 1-5p	UCUUAGUGGAAGUGACGUGCUGUG	Cat. #4427975	197199_mat
BART 1-3p	UAGCACCGCUAUCCACUAUGUC	Cat. #4427975	464048_mat
BART 2-5p	UAUUUUCUGCAUUCGCCUUGC	Cat. #4427975	197238_mat
BART 2-3p	AAGGAGCGAUUUGGAGAAAAUAAA	Cat. #4427975	006174
BART 5-5P	CAAGGUGAAUAUAGCUGCCCAUCG	Cat. #4427975	197237_mat
BART 5-3p	GUGGGCCGCUGUUCACCU	Cat. #4427975	006342
BART 6-5p	UAAGGUUGGUCCAUCCAUAGG	Cat. #4427975	005531
BART 6-3p	CGGGGAUCGGACUAGCCUAGA	Cat. #4427975	008317
BART 7-5P	CCUGGACCUUGACUAUGAAACA	Cat. # 4464084	MH12664
BART 7-3P	CAUCAUAGUCCAGUGUCCAGGG	Cat. # 4464084	MC11560
BART 8-5p	UACGGUUUCCUAGAUUGUACAG	Cat. #4427975	008211
BART 8-3p	GUCACAAUCUAUGGGGUCGUAGA	Cat. #4427975	197196_mat
BART 9-5P	UACUGGACCCUGAAUUGGAAAC	Cat. #4427975	006884
BART 9-3p	U AACACUUCAUGGGUCCCGUAGU	Cat. #4427975	007435
BART 10-5P	GCCACCUCUUUGGUUCUGUACA	Cat. #4464084	MH12964
BART 10-3p	UACAUAACCAUGGAGUUGGCUGU	Cat. #4427975	004421_mat
BART 11-5p	UCAGACAGUUUGGUGCGCUAGUUG	Cat. #4427975	005755
BART 11-3p	ACGCACACCAGGCUGACUGCC	Cat. #4427975	197210_mat
BART 12	UCCUGUGGUGUUUGGUGUGGUU	Cat. #4427975	005725
BART 13-5p	AACCGGCUCGUGGCUCGUACAG	Cat. #4427975	006990
BART 13-3p	UGUAACUUGCCAGGGACGGCUGA	Cat. #4427975	005446
BART 14-5p	UACCCUACGCUGCCGAUUUACA	Cat. #4427975	005811
BART 14-3p	UAAAUGCUGCAGUAGUAGGGAU	Cat. #4427975	006386
BART 15	GUCAGUGGUUUUGUUCCUUGA	Cat. #4427975	005699
BART 16	UUAGAUAGAGUGGGUGUGUGCUCU	Cat. #4427975	006319
BART 17-5p	UAAGAGGACGCAGGCAUACAAG	Cat. #4427975	008216
BART 17-3p	UGUAUGCCUGGUGUCCCUUAGU	Cat. #4427975	008119
BART 18-5p	UCAAGUUCGCACUCCUAUACA	Cat. #4427975	008081
BART 18-3p	UAUCGGAAGUUUGGGCUUCGUC	Cat. #4427975	008473
BART 19-5p	ACAUUCCCCGCAAACAUGACAUG	Cat. #4427975	006693
BART 19-3p	UUUUGUUUGCUUGGGAAUGCU	Cat. #4427975	197235_mat
BART 20-5p	UAGCAGGCAUGUCUUCAUUCC	Cat. #4427975	006851
BART 20-3p	CAUGAAGGCACAGCCUGUUACC	Cat. #4427975	007226
BART 21-5p	UCACUAGUGAAGGCAACUAAC	Cat. #4427975	006882

BART 21-3p	CUAGUUGUGCCCACUGGUGUUU	Cat. #4427975	006186
BART 22	UUACAAAGUCAUGGUCUAGUAGU	Cat. #4427975	006609

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**Supplementary Table S1.** The mature miRNA sequence and product/catalog numbers of all tested miRNAs.

miRNA name	Control		MS		adjusted p value	water background Ct
	Average Ct	SEM	Average Ct	SEM		
bhrf1-1	27.4321	0.3749	27.3292	0.4504	0.8217	32.2295
bhrf1-2-3p	34.9686	0.1418	35.3638	0.1954	0.9351	40
bart1-3p	30.5879	0.1426	30.7562	0.323	0.9325	40
bart2-3p	31.3632	0.2872	31.4097	0.2178	0.7525	40
bart2-5p	26.0385	0.2548	26.191	0.4488	0.7692	33.8206
bart3-3p	27.6905	0.5145	27.8133	0.6908	0.6798	35.1726
bart5-3p	28.7077	0.3	28.3766	0.2126	0.2438	40
bart6-5p	28.9974	0.1752	29.0608	0.3598	0.6684	40
bart8-3p	29.4861	0.4638	28.8701	0.5632	0.3185	39.3245
bart8-5p	31.2471	0.2152	32.3561	0.3646	0.1201	40
bart9-3p	24.3217	0.1479	24.4299	0.3582	0.6702	36.3382
bart10-3p	29.1566	0.353	28.8529	0.3475	0.929	36.4602
bart11-3p	32.1987	0.2754	31.677	0.4098	0.0922	40
bart11-5p	28.4101	0.1157	28.1962	0.3101	0.2272	38.5273
bart15	32.0017	0.1703	31.9169	0.2085	0.3484	40
bart17-3p	25.9655	0.3221	25.6794	0.2381	0.2177	38.7142
bart20-3p	30.8304	0.21	30.761	0.5056	0.5037	40
bart20-5p	29.2643	0.1434	29.9694	0.351	0.3737	40
bhrf1-2-5p	28.1149	0.08137	27.5873	0.1176	0.005	38.8425
bhrf1-3	25.5054	0.07167	25.0871	0.0934	0.004	40
U6snRNA	27.9028	0.10367	27.8636	0.2036	0.86	40

**Supplementary Table S2.** Average Ct values (with SEM) of 20 robustly expressed (average Ct<35 and distinguishable from water background) EBV miRNAs and U6snRNA in the sera of healthy controls and multiple sclerosis (MS) patients. P values were the Student's t test results comparing adjusted Ct values of the two groups.