



## Human Ras Signaling Primer Library

**Catalog No:** HRAS-1  
**Supplier:** RealTimePrimers  
**Lot No:** XXXXX  
**Supplied as:** solid  
**Stability:** store at -20°C

### Description

Contains 88 primer sets directed against Ras signaling genes and 8 housekeeping genes. Provided in a 96-well microplate (20 ul - 10 uM). Perform up to 100 PCR arrays (based on 20 ul assay volume per reaction). Just add cDNA template and SYBR green master mix.

### Gene List:

- ACTA1 actin, alpha 1, skeletal muscle
- ACTA2 actin, alpha 2, smooth muscle, aorta
- ACTG1 actin, gamma 1
- ACTG2 actin, gamma 2, smooth muscle, enteric
- ARAF v-raf murine sarcoma 3611 viral oncogene homolog
- ARHGAP5 Rho GTPase activating protein 5
- ARHGEF1 Rho guanine nucleotide exchange factor (GEF) 1
- ARHGEF11 Rho guanine nucleotide exchange factor (GEF) 11
- ARHGEF2 Rho/Rac guanine nucleotide exchange factor (GEF) 2
- ARHGEF6 Rac/Cdc42 guanine nucleotide exchange factor (GEF) 6
- ARHGEF7 Rho guanine nucleotide exchange factor (GEF) 7
- ATF2 activating transcription factor 2
- BRAF v-raf murine sarcoma viral oncogene homolog B1
- CD247 CD247 molecule
- CD3E CD3e molecule, epsilon (CD3-TCR complex)
- CDC42 cell division cycle 42 (GTP binding protein, 25kDa)
- EGF epidermal growth factor
- EGFR epidermal growth factor receptor
- ELK1 ELK1, member of ETS oncogene family
- ERBB2 v-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avian)
- FGF1 fibroblast growth factor 1 (acidic)
- FGF2 fibroblast growth factor 2 (basic)
- FOS FBJ murine osteosarcoma viral oncogene homolog
- GPLD1 glycosylphosphatidylinositol specific phospholipase D1
- GRB2 growth factor receptor-bound protein 2
- HRAS v-Ha-ras Harvey rat sarcoma viral oncogene homolog
- IGF1R insulin-like growth factor 1 receptor
- ITGA2B integrin, alpha 2b (platelet glycoprotein IIb of IIb/IIIa complex, antigen CD41)
- ITGAV integrin, alpha V
- ITGB1 integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)
- ITGB2 integrin, beta 2 (complement component 3 receptor 3 and 4 subunit)
- ITGB3 integrin, beta 3 (platelet glycoprotein IIIa, antigen CD61)
- JUN jun proto-oncogene
- KDR kinase insert domain receptor (a type III receptor tyrosine kinase)
- KIT v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog
- KRAS v-Ki-ras2 Kirsten rat sarcoma viral oncogene homolog
- LCK lymphocyte-specific protein tyrosine kinase
- MAP2K1 mitogen-activated protein kinase kinase 1
- MAP2K2 mitogen-activated protein kinase kinase 2
- MAP2K3 mitogen-activated protein kinase kinase 3
- MAP2K4 mitogen-activated protein kinase kinase 4
- MAP2K6 mitogen-activated protein kinase kinase 6
- MAP2K7 mitogen-activated protein kinase kinase 7
- MAP3K1 mitogen-activated protein kinase kinase kinase 1, E3 ubiquitin protein ligase
- MAPK1 mitogen-activated protein kinase 1
- MAPK10 mitogen-activated protein kinase 10
- MAPK12 mitogen-activated protein kinase 12
- MAPK3 mitogen-activated protein kinase 3



- MAPK6 mitogen-activated protein kinase 6
- MAPK7 mitogen-activated protein kinase 7
- MAPK8 mitogen-activated protein kinase 8
- MAPK9 mitogen-activated protein kinase 9
- NRAS neuroblastoma RAS viral (v-ras) oncogene homolog
- PAK1 p21 protein (Cdc42/Rac)-activated kinase 1
- PAK2 p21 protein (Cdc42/Rac)-activated kinase 2
- PAK3 p21 protein (Cdc42/Rac)-activated kinase 3
- PAK4 p21 protein (Cdc42/Rac)-activated kinase 4
- PAK7 p21 protein (Cdc42/Rac)-activated kinase 7
- PIK3CA phosphoinositide-3-kinase, catalytic, alpha polypeptide
- PIK3CB phosphoinositide-3-kinase, catalytic, beta polypeptide
- PIK3CD phosphoinositide-3-kinase, catalytic, delta polypeptide
- PIK3R1 phosphoinositide-3-kinase, regulatory subunit 1 (alpha)
- PIK3R2 phosphoinositide-3-kinase, regulatory subunit 2 (beta)
- PLCE1 phospholipase C, epsilon 1
- PLD1 phospholipase D1, phosphatidylcholine-specific
- PLD2 phospholipase D2
- PLD3 phospholipase D family, member 3
- RAC1 ras-related C3 botulinum toxin substrate 1 (rho family, small GTP binding protein Rac1)
- RAC2 ras-related C3 botulinum toxin substrate 2 (rho family, small GTP binding protein Rac2)
- RAC3 ras-related C3 botulinum toxin substrate 3 (rho family, small GTP binding protein Rac3)
- RAF1 v-raf-1 murine leukemia viral oncogene homolog 1
- RALA v-ral simian leukemia viral oncogene homolog A (ras related)
- RALB v-ral simian leukemia viral oncogene homolog B (ras related; GTP binding protein)
- RALBP1 ralA binding protein 1
- RALGDS ral guanine nucleotide dissociation stimulator
- RAP1A RAP1A, member of RAS oncogene family
- RASA1 RAS p21 protein activator (GTPase activating protein) 1
- RHOA ras homolog family member A
- RHOB ras homolog family member B
- RHOC ras homolog family member C
- RHOG ras homolog family member G
- RRAS related RAS viral (r-ras) oncogene homolog
- RRAS2 related RAS viral (r-ras) oncogene homolog 2
- SHC1 SHC (Src homology 2 domain containing) transforming protein 1
- SHC3 SHC (Src homology 2 domain containing) transforming protein 3
- SOS1 son of sevenless homolog 1
- SOS2 son of sevenless homolog 2
- VEGFA vascular endothelial growth factor A
- ACTB Actin, beta
- B2M Beta-2-microglobulin
- GAPDH Glyceraldehyde-3-phosphate dehydrogenase
- GUSB Glucuronidase, beta
- HPRT1 Hypoxanthine phosphoribosyltransferase 1
- PGK1 Phosphoglycerate kinase 1
- PPIA Peptidylprolyl isomerase A
- RPL13A Ribosomal protein L13a

### Usage

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